Poster Presentation

P1 **The Number of Patients Diagnosed with Brain Death and Organ Donation Rates in Başkent University Konya Hospital: 6 Year Experience**

Erdal Karagülle[1], Emin Türk[1], Erkan Yıldırım[2], Hakan Erdoğan[3], Fatma Karakoç[4], Mahir Kırnap[5], Mehmet Haberal[5]

Departments of [1]General Surgery Division of Transplantation, [2]Radiology, [3]Nephrology, [4]Anesthesiology, Baskent University, Konya; and [5]General Surgery Division of Transplantation, Ankara, Turkey

P2 **Evaluation of Patients Receiving Primary Hemodialysis in Azerbaijan**

H. Ismailov[1], Z. Hesenova[1], F. Babaev[2], K. Huseinov[3], K. Muslumov[1]

[1]«Medservis» PMC, [2]Republic Clinical Urology Hospital, [3]Scientific Surgical Center named after Academician M. Topchubashov, Azerbaijan

P3 **Veins Transposition to Create Vascular Access for Hemodialysis Patients**

U.K. Yuldashev[1], B.B. Nurmuhamedov[2]

[1]Republican Specialized Scientific and Practical Medical Center, [2]Nephrology and kidney transplantation Ministry of Health of Republic of Uzbekistan, Tashkent, Uzbekistan uldashev[1], B.B. Nurmuhamedov[2]

P4 **Application of Selective Ultrafiltration during Hemodialysis**

Hikmet Ismailov, Ilham M. Hamidov, Mirhashim R. Jalalov, Rustam T. Verdiyev, Rustam A. Khalilov, Kamil M. Muslumov, Arifa S. Guliyeva, Afsun Y. Annagiyev

Azerbaijan State Doctors Improvement Institute named after A.Aliyev, Clinical Medical Center, Baku, Azerbaijan

P5 **The Use of Retrograde Reperfusion of the Donor Kidney During the Implantation to Reduce Ischemic-Reperfusion Injury**

Gani Kuttymuratov

Aktobe Medical Center, Aktobe, Kazakhstan

P6 **Deodorant Sanitization with Chlorine Dioxide Power for Prevention of Respiratory Infection in Hemodialysis Patients**

Wala Mderis, Issa Kawalit, Abbas El Khatib

Arab Renal Care Group, Amman, Jordan

P7 **Deodorant Sanitization with Chlorine Dioxide Power for Prevention of Respiratory Infection Post Living Kidney Transplant**

Wala Mderis, Abbas El Khatib, Issa Kawalit

Arab Renal Care Group, Amman, Jordan

P8 **HLA Class II Haplotype Frequencies in ESRD Patients in Uzbek Population**

Farhod Khadjibaev, Visolat Sharipova, Malika Ruzibakieva, Khikmat Anvarov, Pulat Ultanov, Nodir Sultanov

RRCEM, Tashkent, Uzbekistan

P9 **Are Angiotensin-Converting Enzyme-1 Gene and Genes Encoding For Angiotensinogen Polymorphisms Associated with ESRD in Uzbeks?**

Farhod Khadjibaev, Malika Ruzibakieva, Dilshod Ergashev, Jahongir Sadikov, Khikmat Anvarov, Pulat Sultanov

RRCEM, Tashkent, Uzbekistan

P10 **Anemia of Chronic Disease and Renal Failure**

Elvin Isaev

Lankaran Treatment and Diagnostic Center, Lankaran City, Republic of Azerbaijan

P11 **Improved Quality of Life (QoL) In Renal Transplant Recipients than Dialysis and Non-Dialysis Chronic Kidney Disease (CKD) Patients**

M.M. Iqbal[1], M.N. Rahman[2], M.M. Alam[2], P.K.D. Nath[1], K. Islam[3], R.M. Hossain[4], A.A. Chowdhury[5]

[1]SSMC, [2]Tejgaon College Dhaka, [3]CKDU Hospital, [4]BSMMU, [5]NIKDU, Dhaka, Bangladesh

P12 **Pure 3D-Laparoscopic Living Donor Nephrectomy: First Case in Kazakhstan**

Myltykbay Rysmakhanov

Aktobe Medical Center, Aktobe, Kazakhstan

P13 **Variants of Implementation of Vascular Anastomosis in Related Kidney Transplantation in Patients with Multiple Blood Supply**

Farhod Khadjibaev, Nodir Sultanov, Dilshod Ergashev, Pulat Sultanov, Maksud Rashidov

RRCEM, Tashkent, Uzbekistan

P14 **Intraoperative Transversus Abdominis Plain Block for Postoperative Analgesia after Living Donor Nephrectomy**

Visolat Sharipova, Azamat Alimov, Mirodil Sadikov, Farhodjon Siyabayev

RRCEM, Tashkent, Uzbekistan

P15 **Lung Related Complications: Is There Any After Donating a Kidney?**

Dorina Esendağlı[1], Elif Küpeli[1], Aydıncan Akdur[2], Mahir Kırnap[2], Şule Akçay[1], Gökhan Moray[2], Mehmet Haberal[2]

Departments of [1]Pulmonary Diseases and [2]Transplantation, Baskent University, Ankara, Turkey

P16 **Do QuantiFERON Positive Kidney Donors Create a Risk Of Developing Tuberculosis in Recipients?**

Dorina Esendağlı[1], Şule Akçay[1], Ebru H. Ayvazoğlu Soy[2], Mahir Kırnap[2], Elif Küpeli[1], Gökhan Moray[2], Mehmet Haberal[2]

Departments of [1]Pulmonary Diseases and [2]Transplantation, Baskent University, Ankara, Turkey

P17 **Pulmonary Complications and Intensive Therapy in Renal Transplant Recipients**

Sardor Ibragimov, Ravshan Ibadov, Feruz Nazyrov

SUE "Republican specialized scientific-practical medical center of surgery named after academician V.Vakhidov", Tashkent, Uzbekistan

P18 Incidence of Cardiovascular Events after Renal Transplantation

Emir Karaçağlar[1], Arzu Neslihan Akgün[1], İbrahim Haldun Müderrisoğlu[1], Mehmet Haberal[2]

Departments of [1]Cardiology and [2]Transplantation, Baskent University, Ankara, Turkey

P19 The Effect of Kidney Transplantation on Balance and Fall Risk

Nihan Tekkarışmaz[1], Pınar Doruk Analan[1], Rüya Özelsancak[1], Dilek Torun[1], Kenan Çalışkan[2], Mehmet Haberal[3]

Departments of [1]Nephrology, and [2]Transplantation, Baskent University, Adana; and [3]Transplantation, Baskent University, Ankara, Turkey

P20 Assessment of Middle Ear Mechanics, Internal Ear Accoustical Emission Measurements and Hearing in Patients with Renal Transplantation

Işılay Öz[1], Ebru H. Ayvazoğlu Soy[2], C. Burak Sayın[3], Levent N. Özlüoğlu[1], Mehmet Haberal[2]

Departments of [1]Otolaryngology, [2]Transplantation, and [3]Nephrology, Başkent University, Ankara, Turkey

P21 Femoral Neck Fractures in Renal Transplantation Patients: Clinical and Radiological Outcome Analysis with At Least 1 Year Follow-up

Bahtiyar Haberal, Ekin Kaya Şimşek, Orçun Şahin, İsmail Cengiz Tuncay

Department of Orthopedics and Traumatology, Baskent University, Ankara, Turkey

P22 Comparison of Isolated Transplant Glomerulopathy with Chronic Antibody-Mediated Rejection (CAMR) in Regards to Endothelial-to-Mesenchymal Transition (EndoMT) and Graft Survival

B. Handan Özdemir[1], Eda Akçay[1], Aydan Akyüz Özdemir[2], Mehmet Haberal[3]

Departments of [1]Pathology, [2]Public Health, and [3]Transplantation, Baskent University , Ankara, Turkey

P23 Association of Proinflammatory Cytokine Interleukin-1 Gene Polymorphisms with Chronic Glomerulonephritis and End Stage Renal Disease in Renal Transplantation Patients

Farhod Khadjibaev, Visolat Sharipova, Malika Ruzibakieva, Dilshod Ergashev, Jahongir Sadikov, Pulat Sultanov

RRCEM, Tashkent, Uzbekistan

P24 Genetic Markers of New-Onset Diabetes after Renal Transplantation

Abdulkhakim Khadjibaev, Farhod Khadjibaev, Visolat Sharipova, Malika Ruzibakieva, Pulat Sultanov, Dilshod Ergashev

RRCEM, Tashkent, Uzbekistan

P25 Parathyroidectomy after Kidney Transplantation: A Single-Center Experience

Nazlı Gülsoy Kırnap[1], Mahir Kırnap[2], Mehmet Haberal[2]

Departments of [1]Endocrinology and [2]Transplantation, Baskent University, Ankara, Turkey

P26 Treatment of Metabolic Syndrome after Kidney Transplant

ON Rzhevskaya[1], NV Zagorodnikova[1], KE Lazareva[1], AV Pinchuk[1], RN Akalaev[2], HA Khashimov[3], AU Rahimov[3], HE Anvarov[2]

[1]SRI SP named after N.V. Sklifosovsky, Moscow, Russia; [2]Republican Scientific Center for Emergency Medicine; and [3]Tashkent Institute for Advanced Medical Studies, Tashkent, Uzbekistan

P27 Importance of Hypomagnesemia on New Onset Diabetes Mellitus in Pediatric Renal Transplantation

Esra Baskın[1], Özlem Aksoy[1], Kaan Gülleroğlu[1], Aydıncan Akdur[2], Gökhan Moray[2], Mehmet Haberal[2]

Departments of [1]Pediatric Nephrology, and [2]Transplantation, Baskent University, Ankara, Turkey

P28 Recurrence and Outcomes of Complement Related Renal Disease after Pediatric Renal Transplantation

Kaan Gülleroğlu[1], Esra Baskın[1], Handan Özdemir[2], Gökhan Moray[3], Mehmet Haberal[3]

Departments of [1]Pediatric Nephrology, [2]Pathology, and [3]Transplantation, and Baskent University, Ankara, Turkey

P29 Effect of Liver Transplantation on Neurological Manifestations and Brain Magnetic Resonance Imaging Findings in Wilson Disease

Ebru H. Ayvazoğlu Soy[1], Ruhsen Öcal[2], Sibel Benli[2], Fuldem Dönmez[3], Muhteşem Ağıldere[3], Serkan Öcal[4], Mehmet Haberal[1]

Departments of [1]Transplantation, [2]Neurology, [3]Radiology, and [4]Gastroenterology, Baskent University, Ankara, Turkey

P30 The Influence of Donor Older Age on Liver Transplant Outcomes

Asude Ayhan, Zeynep Ersoy, Deniz Sivrioğlu, Adnan Torgay, Gökhan Moray, Mehmet Haberal

Departments of [1]Anesthesiology and [2]Transplantation, Baskent University, Ankara, Turkey

P31 Usefulness of Unenhanced CT for Assessment of Macrovesicular Hepatic Steatosis in Living Liver Donors

Kemal Murat Haberal[1], Mehmet Coşkun[2], Asuman Nihan Haberal[2]

Departments of [1]Radiology and [2]Pathology, Baskent University, Ankara, Turkey

P32 MELD-XI Score and Coronary Artery Disease Prevalence and Extent among In-Hospital Patients with End-Stage Liver Failure Awaiting Transplant

Suzan Keskin[1], Orçun Çiftci[1], Gökhan Moray[2], Haldun Müderrisoğlu[1], Mehmet Haberal[2]

Departments of [1]Cardiology and [2]Transplantation, Baskent University, Ankara, Turkey

P33 Prevalence of Infections in Infants within First Six Months of Liver Transplantation

Oya Balcı Sezer[1], Zeren Barış[1], Zafer Ecevit[2], Figen Özçay[1], Mehmet Haberal[3]

Departments of [1]Pediatric Gastroenterology, [2]Pediatric Infection, and [3]Transplantation, Baskent University, Ankara, Turkey

P34 Efficacy of Levatiracetam for Epilepsies in Liver Transplant Children with PRES

Taner Sezer[1], Oya Balcı Sezer[1], Figen Özçay[2], Aydıncan Akdur[2], Adnan Torgay[3], Mehmet Haberal[2]

Departments of [1]Pediatric Gastroenterology, [2]Transplantation, and [3]Anesthesiology, Baskent University, Ankara, Turkey

P35 15 Years Follow-Up of a Child with Multi-Drug Resistant De-Novo Hepatitis B Infection after Liver Transplant

Oya Balcı Sezer[1], Figen Özçay[1], Ebru H. Ayvazoğlu Soy[2], Gökhan Moray[2], Mehmet Haberal[2]

Departments of [1]Pediatric Gastroenterology and [2]Transplantation, Baskent University, Ankara, Turkey

P36 Sirolimus and Metformin Synergistically Inhibits Colon Cancer in Vitro and in Vivo

Nadiar Mussin[1], Aliya Mussina[2], Seung Cheol Oh[3], Kwang-Woong Lee[3], Min Young Park[3], Sooin Seo[3], Nam-Joon Yi[3], Hyeyoung Kim[3], Kyung Chul Yoon[3], Sung-Woo Ahn[3], Hyo-Sin Kim[3], Suk Kyun Hong[3], Dong Kyu Oh[3], Kyung-Suk Suh[3]

[1]Aktobe Medical Center, Aktobe city, Republic of Kazakhstan, [2]"Medical University Astana" JSC, Astana Republic of Kazakhstan; [3]Seoul National University Hospital, Seoul, South Korea

P37 Evaluation of Severity of Cardiac Allograft Vasculopathy with Coronary Artery Disease Score: Gensini Score

Emir Karaçağlar[1], Arzu Neslihan Akgün[1], İbrahim Haldun Müderrisoğlu[1], Mehmet Haberal[2]

Departments of [1]Cardiology and [2]Transplantation, Baskent University, Ankara, Turkey

P38 Can it be the Solution? Using Marginal Donors in Heart Transplatation

Deniz Sarp Beyazpınar, Anar Aliyev, Özgür Ersoy, Bahadır Gültekin, Atilla Sezgin

Department of Cardiovascular Surgery, Başkent University, Ankara, Turkey

P39 Neurologic Complications in Heart Transplant Recipients Admitted to Intensive Care Unit

Helin Şahintürk[1], Beyza Meltem Yurtsever[1], Özgür Ersoy[2], Seda Kibaroğlu[3], Pınar Zeyneloğlu[2]

Departments of [1]Anesthesiology, [2]Cardiovascular Surgery, and [3]Neurology, Başkent University, Ankara, Turkey

P40 Detection of Tissue Resident Donor-Specific Antibodies in Cardiac Allograft Biopsy by LUMINEX in Heart Transplant Patients

Bilkay Baştürk[1], Atila Sezgin[2], Elif Sade[3], B. Handan Özdemir[4], Ayşen Terzioğlu[4], Bircan Kantaroğlu[1], Mehmet Haberal[5]

Departments of [1]Immunology, [2]Cardiovascular Surgery, [3]Cardiology, [4]Pathology, and [5]Transplantation, Başkent University, Ankara, Turkey

P41 mHLA-G Expression on Treg Cell and Natural Killer Cell Associated with Desensitization in Heart Transplant Patients

Bilkay Baştürk[1], Bircan Kantaroğlu[1], Miray Kavuzlu[1], Atila Sezgin[2], Elif Sade[3], Mehmet Haberal[4]

Departments of [1]Immunology, Başkent University, Adana; [2]Cardiovascular Surgery, [3]Cardiology, and [3]Transplantation, Başkent University, Ankara, Turkey

P42 Blood Stream Infections Due to Extremely Drug Resistant Gram Negative Pathogens in Solid Organ Transplant Recipients: Epidemiology, Risk Factors and Mortality

Çiğdem Erol[1], Melike Hamiyet Demirkaya[1], Ebru H. Ayvazoğlu Soy[2], Hande Arslan[1], Mehmet Haberal[2]

Departments of [1]Infectious Diseases and [2]Transplantation, Başkent University, Ankara, Turkey

P43 Have HLA Allele Frequencies Changed Since the Influx of Immigrants in Southeastern Turkey

Bilkay Baştürk[1], Bircan Kantaroğlu[1], Miray Kavuzlu[1], Aytül Noyan[2], Dilek Torun[2], Mutlu Kasar[1], Mehmet Haberal[3]

Departments of [1]Immunology, [2]Nephrology, Başkent University, Adana; and [3]Transplantation, Başkent University, Ankara, Turkey

P44 A New Approach for Transplanting Cells to Treat Diabetes

Nodirjon Ruzimurodov

Institute of Immunology and human genomics Academy of Science Republic of Uzbekistan, Tashkent, Uzbekistan

P45 Effect of Muralor Intra-Arterial Injection Adipose Derived Stem Cells on TNBS-Induced Colitis: An Experimental Study

Tugan Tezcaner[1], Ahmet Çağrı Uysal[2], Gonca Özgün[3], Huriye Eda Özturan Özer[4], Yahya Ekici[1], Sedat Yıldırım[1]

Departments of [1]General Surgery, [2]Plastic and Reconstructive Surgery, [3]Pathology, and [4]Biochemistry, Baskent University, Ankara, Turkey

P46 The Effects of Adipose Tissue-Derived Stem Cells and Platelet-Rich Fibrin in Attenuated Colon Anastomosis: An Experimental Study

Burcin Doruk Oktay[1], Tugan Tezcaner[1], Yahya Ekici[1], Pelin Börcek[2], Ahmet Çağrı Uysal[3], Gökhan Moray[1]

Departments of [1]General Surgery, [2]Pathology, and [3]Plastic and Reconstructive Surgery, Baskent University, Ankara, Turkey

P47 **Autologous Mesenchymal Stem Cell Transplant in Patients with Type 2 Diabetes Mellitus**

Olga Ulyanova, Abay Baigenzhin, Larissa Kozina, Zhannat Taubaldieva, Manarbek Askarov, Temirlan Karibekov, Galiya Shaimardanova

National Scientific Medical Research Center, Astana, Kazakhstan

P48 **The Effect of Selective Suture Removal on Post-Penetrating Keratoplasty Astigmatism in Keratoconus Patients**

Dilek Dursun Altınörs, Leyla Asena, Sibel Oto

Department of Ophthalmology, Baskent University, Ankara, Turkey

P49 **Novel Management of Recurrent Keratoconus after Penetrating Keratoplasty with Topography Guided Selective Re-Suturation of the Graft-Host Junction**

Dilek Dursun Altınörs, Leyla Asena, Sibel Oto

Department of Ophthalmology, Baskent University, Ankara, Turkey

P50 **The Effect of Corneal Transplantation on Visual Function and Vision-Related Quality of Life**

Leyla Asena, Dilek Dursun Altınörs, Sibel Oto

Department of Ophthalmology, Baskent University, Ankara, Turkey

L1

What is WHO Role on Organ Transplantation Worldwide

Prof. Jose R. Nuñez

Adviser, Medical Products of Human Origin, World Health Organization, Switzerland

WHO came into force on 7 April 1948 and now more than 7000 people are working with 194 Member States in 150 country offices, in six regional offices and our headquarters in Geneva.

Our primary role is to direct and coordinate international health within the United Nations system with many areas of work and programmes based on health through the life course. WHO support countries as they coordinate the efforts of governments and partners, funds and foundations, civil society organizations and the private sector to attain health objectives by supporting national health policies and strategies.

Considering our shared commitment to achieve better health for everyone, everywhere, WHO has the obligation to work and to promote the development of transplantation systems. In 60 years transplantation has become a successful worldwide practice which provide excellent long term survival and quality of life to patients. Transplantation of human cells, tissues or organs saves many lives and restores essential functions where no alternatives of comparable effectiveness exist.

However, there are large differences between countries in access to suitable transplantation and in the level of safety, quality, efficacy of donation and transplantation of human cells, tissues and organs.

The unmet patients' needs and the shortage of transplants lead to the obligation to promote donations from deceased persons and should be developed to their maximum therapeutic potential avoiding, whenever possible, the inherent risks to live donors, as stated in WHO Guiding Principle 3. There is a recognized need for communities, and health professionals, to become better educated about donation and transplantation and that is the key to the success of deceased donation programmes.

However, despite the frequent use of materials donated from deceased donors, the donations from living donors are necessary for some types of transplants or to compensate for the limited supply of material available from deceased donors in order to meet patient needs. Living donation is thus practised despite the fact that it involves risks for the donor that may not be negligible.

As the procurement of human material for transplantation from deceased or living donors and the subsequent allogeneic transplantation may entail ethical and safety risks for both the recipient and the donor, strict controls and effective oversight should be carried out by the health authorities to protect them.

The transparent oversight of the health authorities over donation and transplantation activities is also essential to increase the trust of the public in the system. In addition, the decision to be a donor is often based on the understanding that a contribution to the availability of transplant resources may someday benefit the health needs of the donor's family.

If we are prepared to receive a transplant should we need one, then we should be ready to give, and this should be the clear message given to professionals and society.

As mandated by its Member States, WHO is strongly committed to working on concrete measures that can ensure that organ donation and transplantation are always carried out in a voluntary, safe, and ethical way, and to promote deceased donation.

L2

Burden of Disease-Kidney and Liver: Review of Classifications, Etiologies and Potential Reversibility

Nancy Ascher

Professor and Chair, Department of Surgery Division of Transplant Surgery, University of California San Francisco, USA

[Abstract not available]

L3

The Australian Model: Lessons for Increasing Organ Donation

Jeremy Chapman[1], Helen Opdam[2]

[1]Director of Medicine and Cancer, Westmead Hospital; and [2]National Medical Director of Australian Organ and Tissue Donation and Transplantation Authority, Sydney, Australia

Organ Donation from deceased donors began in Australia in 1963 and since then there have been three eras of organ donation:

1. The Kidney Only Era;
2. The Multi Organ Donor Coordinator Era;
3. The Intensive Care Donation Specialist Era.

The first organs transplanted in Australia were kidneys up until 1984, when Heart and Liver transplantation began. This first phase of organ donation was managed largely by individual Renal Physicians within the hospitals that they worked in. The numbers of transplants were limited and there were no professional coordinators involved until the very end of the Kidney Only Era of organ donation. The numbers of organs per million population (pmp) were in the low single digits. The work of organ donation was undertaken by physicians and coordination was centred on the need to test the crossmatch and later the HLA matching, thus involving primarily the Tissue Typing Laboratory.

With the advent of multi organ donors and transplantation of not only the kidneys but also the Heart and Liver, followed by the Lung and Pancreas, organ donation needed to be professionalised. This was undertaken by state based Transplant Coordinators usually based in Transplant Hospitals and coordinating multiple retrieval teams, the donation hospital and the Tissue Typing Laboratory. The organ matching scheme computer system was introduced early in this phase of donation which lasted from 1985 until 2008. A national coordinating role was assigned to a national committee and continued dissatisfaction with Australian organ donation rates was examined through the lens of this national committee system. The donation rate reached 12 pmp and often hovered below that level. Multiple strategies were used to encourage the community to participate in organ donation after death, few of which could be demonstrated to have any effect on the underlying rates which seemed stubbornly fixed at the lower end of international comparators.

The 'Intensive care donation specialist Era' was ushered in through a series of reviews of the historical poor performance which culminated in a substantial government investment in increasing the organ donation rate through a 10 point plan. This era commencing in 2009 has delivered a steady and dramatic increase in organ donation rate and the number of individuals being transplanted in Australia. These 10 points will be discussed and the impact of the concerted national investment in organ donation highlighted. The features of the Australian system are that donation is Intensive Care driven, Organ Donor Agency coordinated and transparently allocated through a national computer system to community driven values. The current rate of just over 20 donors per million remains below the target set for the Organ and Tissue Authority but a substantial achievement over the past 10 years.

Examining international approaches to Organ Donation one can see these three eras being implemented today with very similar results to the Australian experience in these era. The examples of Spain, Italy, Austria, Croatia, United States, Portugal and now Australia commend the Intensive care based donation Specialist model.

L4

The First 50 Cases of Kidney Transplantation in RRCEM

Abdulkhakim Khadjibaev, Farhod Khadjibaev, Visolat Sharipova, Pulat Sultanov, Khikmat Anvarov, Dilshod Ergashev, Maksud Rashidov

RRCEM, Tashkent, Uzbekistan

Introduction: Kidney transplantation is the preferred treatment for patients with end stage of chronic kidney disease (CKD). Kidney transplant surgery run in Uzbekistan since 2017 after long time pause. This abstract presents the first experience of 50 cases of kidney transplantation in RRCEM.

Methods: At the Republican Research Centre of Emergency Medicine, from March 2018 to June 2019, 50 kidney transplants were performed. 47 (94%) cases of CKD was the complication of chronic glomerulonephritis, 1 (2%) case with polycystic kidney disease, 1 (2%) case was a child with Abnormality of the Urinary Tract and 1 (2%) case - diabetes mellitus type 2. 24 (48%) patients were males and 26 (52%) – females. The age of the patients was from 14 to 59, Mean age - 32.4. All of the kidney transplants was from a living closely related donors. 26 (52%) donors are brothers and sisters, 19 (38%) are parents, 2 (4%) uncle and aunt, 1 (2%) son, 1 (2%) husband and 1 (2%) niece. The duration of CKD was from 2 months to 16 years, mean duration 3.45 years. The hemodialysis duration of patients was from 2 weeks to 7 years, mean duration 1.4 years. 33 (66%) of patients with CKD had a symptomatic arterial hypertension. 9 cases had a positive hepatitis type B or C. All of the patients performed traditional kidney transplantation. 28 (56%) cases of kidney transplantation were performed to the right side and 22 (44%) to the left side. Ureterovesical anastomosis with Double-J stent was performed in 42 (84%) cases of kidney transplants and without Double-J stent in 8 (16%) cases. The duration of warm ischemia time was from 28 min to 184 min (mean – 69.4 min), the duration of cold ischemia time was from a 15 min to 60 min (mean – 27.4 min). All patients initially received a standard triple immunosuppressive protocol, consisting of tacrolimus, mycophenolate mofetil and prednisone.

Results: The investigation of the first 50 cases of kidney transplant in RRCEM shows that immediate graft function was in 36 cases (72%) and delayed graft function 14 (28%). The duration of delayed graft function was from 1 hour to 14 days, mean 3.9 days. There were 2 (4%) cases of an acute cellular rejection, which were treated successfully with pulse therapy with methylprednisolone. Ureteral stenosis was revealed in 2 (4%) patients and ureteral necrosis with urine leaks in 1 (2%) case. They were performed kidney transplantation without Double-J stent. Lymphorrhea and lymphocele was mentioned at 6 (12%) cases and hematoma – at 5 (10%) cases. Thrombosis of artery of the graft was revealed in 1 (2%) case. Thrombosis of the graft vein, and external iliac vein was occurred in 1 (4%) case which complicated with pulmonary embolism. In our short time term investigation we can show 1 year kidney transplant patients survival. 1-year survival rate was 88%.

Conclusion: Thus, kidney transplantation is being carried out in a specialized multidisciplinary centre, taking into account the recipient condition, angioarchitecture of kidney grafts and teamwork including qualified surgeons, anesthesiologist-resuscitators and nephrologists.

L5
Stem Cell Therapy in Failing Organs

Marwan Masri
Medical Immunopathology, Transmedical For Life, Lebanon, Canada and Offshore

Gene Therapy and Cell Therapy are overlapping fields of biomedical research with similar therapeutic goals. Gene Therapy can be defined as the use of genetic material to manipulate a patient's cells for the treatment of an inherited or acquired disease. Stem cell based therapies are now widely used for diversified indications Some of the cells that may be used include hematopoietic stem cells (HSC), skeletal muscle stem cells, mesenchymal stem cells, lymphocytes, dendritic cells, and pancreatic islet cells. Regenerative medicine, promotes the reparative response of diseased, dysfunctional or injured tissue using stem cells or their derivatives the healing process relies on stem cells within this implanted tissue or by injecting cell into a patient; this generally means intact, living cells. Stem cell transplantation has now replaced bone marrow transplant, peripheral blood stem cells are easily obtained with good quality and quantities with the least invasive technique. Stem cells are can now be obtained from umbilical cord, peripheral blood, adipose tissues, bone marrow and Wharton's jelly. The isolated stem cells are being experimentally used for the treatments for neurodegenerative diseases and conditions, diabetes, heart disease, and other conditions. The EU regulatory classification of cell-based therapies discriminates between minimally manipulated cells for homologous use and those regulated as medicines which are required to demonstrate quality, safety and efficacy standards to obtain a marketing authorization before becoming commercially available (referred to as Advanced Therapy Medicinal Products; ATMPs) which are further subdivided into somatic cell, gene therapy and tissue engineered products. Another way of considering the diversity of cell therapies is classification by their underlying technology.

Another potential application of stem cells is making cells and tissues for medical therapies. Under the right conditions in the body or a laboratory, stem cells divide to form more cells called daughter cells. Pluripotent stem cells offer the possibility of a renewable source of replacement cells and tissues to treat a myriad of diseases, conditions, and disabilities including Parkinson's disease, amyotrophic lateral sclerosis, spinal cord injury, burns, heart disease, diabetes, and arthritis. For end stage diseases donated organs and tissues are often used to replace those that are diseased or destroyed. Many groups are trying to build organs using biodegradable scaffolding and stem cells. Till now only trachea and bladders have been built and transplanted. Major issues still such as, kinds of adult stem cells exist, and in which tissues do they exist and how do adult stem cells evolve during development and how are they maintained in the adult. And most importantly do adult stem cells have the capacity to transdifferentiate, and is it possible to control this process to improve its reliability and efficiency and is donor cell-recipient cell contact required, secretion of factors by the donor cell, or both? What are the factors that control adult stem cell proliferation and differentiation?

L6
New Markers for Transplant Rejection

Hassan Argani
Modarres Hospital, Shahidbeheshti University, Tehran, Iran

Monitoring of allograft function following kidney transplantation has routinely relied upon the use of nonspecific markers, such as serum creatinine, glomerular filtration rate (GFR), proteinuria and donor specific antibodies (DSAs). These traditional markers have low sensitivity, and fail to detect subclinical changes. Although diagnosis of renal allograft dysfunction still requires an invasive allograft biopsy, as the gold standard for the assessment of graft status. However, renal biopsy is an invasive procedure, and sampling errors may result to misdiagnosis of cause of graft failure. New biomarkers have been developed for improving of existing methods to monitor of allograft function, although many of those are not used routinely yet. Additionally their shortcomings such as the lack of standardization and the high cost should be solved before of their widespread applications in the clinic. Assessments of a recipient's immune status could be monitored by using of urine or blood samples. These include functional cell-based assays and the evaluation of molecular expression, at the messenger RNA (mRNA) or protein levels. Molecular technologies, including the molecular microscope diagnostic system, have been developed recently to improve the yield of histologic evaluation of the allograft biopsy. Prospective, interventional trials are required to demonstrate that the use of these new biomarkers improves patient or transplant outcomes. Thereby validation of the findings and their implementation into standard clinical practice remain challenging until their generalizability, cost, ease of interpretation identify which patient may benefit from more than standard-of-care surveillance. The biomarkers will allow the immunosuppressive therapy be individualized for each patient specifically.

L7

History of Ethical Issues in Deceased Donors

Nadey Hakim

Imperial College London, Miran Epstein Queen Mary University London, UK

The deepening organ crisis and the fact that the stakes are high for so many players explain why we have pushed the ethical line to places that had previously been deemed immoral. In the beginning we allowed deceased donations only.

To tackle insufficient supply from the dead we embraced an increasingly inclusive definition of death. This made it possible to retrieve organs from patients who had been considered legally alive according to the old definition of death.

We then came up with the idea of opt-out consent according to which the dead are presumed to have given their consent for using their organs unless stated otherwise. As the crisis continued to deepen we went one step further we allowed donation from the living. In this category we first allowed related and non-directed unrelated donations only. The measures have expanded the organ pool but not enough.

For some time the dead used to be the almost exclusive source of organs for transplantation.

The donation cannot harm the dead as much as it can harm the living, and the dead, unlike the living are no longer at risk of donating their organs under coercion. In an attempt to increase the organ pool without breaching the ethical premises of this category ethical amendments were made in relation to the definition of death in relation to the legal doctrine of consent.

Consent to donate one's organs when one dies or consent to donate the organs of a deceased relative is of the opt-in kind. The subjects involved must give their explicit consent to donate the organs.

Several countries have introduced and others are considering introducing a system of opt-out consent. In such a system people are presumed to have given their consent to become organ donors after death unless they explicitly refused.

There is global inequity in access to Transplantation and Health. The solution will not be found in the globalization of commerce but rather in the globalization of wealth and freedom.

L8

Three Faces of Deceased Organ Transplantation in Asia

Anwar Naqvi, Adibul Rizvi

Sindh Institute of Urology and Transplantation, Civil Hospital, Karachi, Pakistan

Asia is the most populous continent and yet the transplant activity lags behind Europe, North America and Australia. Economic development alone does not explain this deficit and social and cultural factors also contribute to Asia's poor performance.

Asia is covered by three WHO regions. EMRO region countries performing transplants are economically stable and yet government sponsorship in the form of incentives is a prevalent practice. Turkey and Iran are exceptions.

Coming to SEARO region the countries are mostly emerging economies and health sector expenditure is low. Religion and culture both contribute to impediments in deceased organ donation. Commerce in transplantation has left a negative impact on deceased organ donation (DOD).

The WPRO region countries have stronger economies and yet religious issue deprive the third larger economy i.e. Japan of a viable DOD.

The community of transplantologists involving the intensivists and educating the population are the most pertinent way of promoting DOD.

L9

Equity as the Most Challenging Achievement in the Development of Organ Donation and Transplantation Programs

Riadh Fadhil

Qatar Organ Donation Center, Hamad Medical Corporation, Doha, Qatar

Introduction: Qatar is a gulf country of 2.5 million population including 15% natives and 85% expatriate residents, mostly simple laborers from South East Asia and the Middle East. This enormous multicultural socio-economic diversity was a formidable obstacle to effective public participation in the organ donation program. The Doha Donation Accord (DDA) principles and provisions were designed to foster trust among the different communities.

Methods: The DDA and the evolved strategies (the Doha Model of organ donation) are distinguished by equitable access to dialysis, living donation program, donor registry, waiting list, deceased donor organs and the free transplantation facilities regardless of the nationality, religion or financial status. The multi-linguistic communication plan and the implemented healthcare, social and legal provisions have helped to raise awareness of the different communities and initiated the sentiment of belonging, being advantaged and obliged them to participate in the organ donation programs.

Results: Current statistics revealed that The National Donor Registry has more than 100 nationalities totaling 370.000 registrants including 6.50 % citizens. As compared to 2009 the living kidney donation increased 20 folds and deceased donation reached up to 4pmp.

More than 50% of all patients on dialysis are noncitizen residents. The kidney transplant waiting list include more than 50% non citizens residents, the liver transplant waiting list includes 95% non citizen Vs. 5% citizens. Deceased donation transplant activities from 2011 to 2019 shows that more than 80 % of the Deceased donors' kidneys went to non citizens residents Vs. (20%) to citizens and 94.2% of the livers went to noncitizen residents Vs. (5.8%)to citizens.

Conclusion: The diligent effort to respect equity and the ethos of inclusion has led to improvement in the organ donation rate in Qatar. The evolved solidarity and trust have paved the way towards true self-sufficiency among the multicultural society.

L10

Small for Size Syndrome in Liver Transplantation

John Fung

Professor of Surgery
Chief, Section of Transplantation
Co-Director, Transplant Institute
University of Chicago Medicine, Chicago, IL, USA

In the large animal transplant laboratory we are studying a porcine model of the small-for-size syndrome (SFSS). This syndrome occurs following transplantation of livers less than 30-40% liver volume, usually in the setting of living related liver transplantation or split liver transplantation. It is a clinical syndrome comprised of cholestasis, coagulopathy and ascites. It ranges in severity from mild to severe. t its most severe all patients will require retransplantation and mortality rates are high. The problems encountered following transplantation of partial liver grafts are complex but increased portal vein blood flow through a reduced sized microvascular bed, *"portal hyperperfusion"* is regarded as a critical factor in graft injury and determining outcome. In the laboratory we have undertaken to study in detail the hemodynamic changes occurring following transplantation of partial liver grafts as small as 20% liver volume. We know that portal vein blood flow (PVF) per gram of liver tissue is high when small grafts are transplanted. We also know there is a physiologic control mechanism for total liver blood flow, known as the hepatic artery buffer response (HABR). It is a compensatory mechanism based on washout of adenosine produced in the Space of Mall. The Space of Mall is an isolated fluid compartment traversed by the portal triad, terminal branches of the HA, PV and bile ductules. When PVF is reduced, adenosine accumulates in the Space of Mall dilating the arterial resistance vessels; when PVF increases, adenosine is washed out, HA resistance increases and HAF decreases. Production of adenosine in the Space of Mall is thought to occur by demethylation of S-adenosyl homocysteine, an oxygen independent pathway. Hepatocytes also produce adenosine, probably from adenine nucleotides. This was originally believed to be a separate pool physically and functionally isolated from the pool of adenosine in the Space of Mall. However, adenosine produced by the hepatocytes cannot diffuse back upstream to the HA resistance sites. As a physiologic mechanism it is postulated that the HABR minimizes the impact of fluctuations in blood flow on rates of hepatic clearance. It has been shown that HAF compensates to maintain TLBF within 4% of basal flow. The HABR is reported to be intact following transplantation of whole liver allografts and also has been shown in partial grafts. While it was known that the HABR was intact immediately following transplantation of partial liver grafts with a reduction in HAF in response to high PVF rates, we have demonstrated for the first time that in the early post-operative period 1-14 days the normal HABR is replaced by sustained arterial vasoconstriction, demonstrating the relationship between HABR and SFSS. We have also demonstrated that reversal of the vasoconstriction using HA infusion of adenosine improves graft function and survival.

L11

Step-By-Step Illustration of Cadaveric Liver Procurement Techniques

Hasan Yersiz

UCLA Liver and Pancreas Transplant Program, The David Geffen School of Medicine at UCLA, CA, USA

Procurement of abdominal organs for transplantation requires an expeditious assessment and recovery of such organs while minimizing surgical injury. The ever-increasing demand for organs, and unfortunately short supply, has led to innovative ways to expand the donor pool.

The procurement operation can often take place at a community hospital in the middle of the night with a local team unfamiliar with the procedure. Many other organ procurement teams may also be involved which further adds to the complexity of the procedure. There are many factors involve (OR availability, family requests, recipient factors, and transportation) that can often delay the operation but is always important to be prompt, courteous and expeditious.

The standard procurement operation will be covered in detail. Specific changes to the procurement operation when dealing with donation after cardiac death (DCD) and split liver procurements are described as well. DCD organs come from donors who do not meet brain death criteria but have no chance of meaningful neurologic recovery. At the time of procurement, support is withdrawn, and the donor is allowed to expire. After a 5-minute waiting period the patient is pronounced dead by a licensed physician and the organs are then rapidly perfused with cold preservative solution. If the period of time from extubation to cross clamp is less than 30 minutes, the liver is likely usable. Beyond 30 minutes the risk of ischemic cholangiopathy rises and the liver should not be used. An ideal liver (young donor with normal liver function tests) can be divided into left lateral segment and right trisegment grafts. When performing a split liver procurement, our preference is to split the liver *in situ* as this minimizes cold ischemic time. The vessels are then divided "in the cold" and the grafts packaged separately.

The field of abdominal organ transplantation continues to grow with an even greater need for organs expected in the future. In order to meet such demands transplant surgeons must continue to evolve and develop new and innovative ways to increase the availability of donor organs. Some of these new concepts and techniques impose a greater skill set from donor surgeons that we feel is partly achieved from knowing the experience of other surgeons in the field. This information will better equip the donor surgeon to anticipate and be able to handle such situations with the ultimate result of maximum utilization of donor organs.

L12

Blood Pressure Level in Kidney Transplantation: How Low Can We Go?

Antoine Barbari

Rafic Hariri University Hospital, Beirut, Lebanon

Arterial hypertension (HTN) is prevalent among kidney transplant recipients (KTR). The definition of posttransplant HTN (PTHTN) vars according to the means used to measure BP level such as ambulatory blood pressure monitoring (ABPM) using 24 hours, awake, sleep and circadian BP or office BP measurements. According to one study, only 10.5% of KTR were normotensive (BP <130/80 mm Hg without treatment). Major difference between transplants recipients and chronic kidney disease (CKD) patients are observed in sleep systolic BP (SBP). As for CKD patients, office BP measurement as well as office BP target level have poor predictive values in KTR. ABPM is more clinically relevant than office BP. Hypertension at similar SBP level is more severe in KTR than in individuals with normal renal function or in CKD patients with similar renal function, and represents a major cause for graft loss from both renal and patient death. The severity of the BP level in a KTR is linked to the time duration of the CKD and is the result of interplay between the donor and the recipient's genetic backgrounds with several environmental parameters that may precede or follow the transplant procedure. The tight and independent link between SBP level and graft outcome could be explained by the well established impaired auto regulation capacity of the kidney allograft. This condition lead to a heightened glomerular-systemic blood pressure transmission in an almost linear fashion, increasing the susceptibility to progressive glomerular damage even at the low ranges of normal SBP. The ultimate risk of disease progression in the renal allograft is the result of a complex additive and continuous interaction between the current level of BP and all the different ethnic, genetic, demographic, nephronic and environmental prognostic factors as well as the overall therapeutic impact of the multidisciplinary approach combined. KTR are considered as extremely high-risk patients. In light of the lack of definitive clinical outcome trials in kidney transplantation, present evidence seems to favor targeting a more aggressive BP target (BP < 125–130/70-80 mmHg) in persons with non-diabetic CKD on the basis of mortality benefit and potential CV benefit (SPRINT-CKD and CSPPT-CKD). There is no evidence that these targets BP are beneficial in slowing down decline in renal function except maybe in those patients with proteinuria. CV benefits gained by strict BP control diminishes as GFR deteriorates due to the altered risk-benefit ratio in more advanced CKD (SPRINT-CKD).

L13

Are All Senior Citizens Suitable for Dialysis and or Kidney Transplantation?

Muhammad Magdi Yaqoob

Professor and Consultant in Nephrology, Queen Mary College, University of London and Barts Health NHS Trust, London, UK

Chronic diseases have become more prevalent in modern society, and one key reason for this is the increasing life expectancy worldwide. The leading chronic diseases in developed and developing countries include cardiovascular disease, obesity, hypertension, cancer, diabetes and chronic kidney disease.. The rising incidence of chronic disease not only has an impact on the individual, but also on society as a whole; as seen in the greater burden on health care systems as well as the negative impact on the economy.

Chronic kidney diseases (CKD) have reached epidemic proportion fuelled by hypertension and diabetes. Incidence and prevalence of end stage kidney disease (ESKD) is increasing steadily and affecting elderly population. One third of world population above the age of 75 years of age have some form of CKD. These individuals have additional age related co morbidities resulting in them being exceedingly frail. Outcomes of dialysis and or transplantation in these exceeding co-morbid individuals is associated with little survival advantage but usually results in inferior quality of life. Increasing shared decision making is practiced to determine which individuals will benefit from renal replacement therapy compared to those in whom it may cause harm. Those patients who are deemed un suitable of who do not want to be treated by dialysis and or transplantation should be managed in multi-disciplinary setting. In my talk I will present our own experience of such multi award service at Barts health NHS Trust, London UK.

L14

Ten-Thousand Intra-Abdominal Solid Organ Transplantation Over Three Decades in a Single Center by a Dedicated Multidisciplinary Team

Seyed Ali Malek Hosseini

Founder of Shiraz Transplant Center
Founder of Abo Alicina Institute
President of Iranian Society for Organ Transplantation
Shiraz, Iran

The first kidney transplantation was performed in 1968 in Namazee Hospital, Shiraz, Iran. By 1978, 80 Iranian patients underwent kidney transplantation; some wealthy who could afford the associated costs, were transplanted abroad, mostly in the UK.

After 1979 Iran Revolution, transplantation activity was stopped; it restarted in 1986. Shiraz Transplant team began its activity by a new multidisciplinary team consisted of young dedicated members in 1988 first with kidney and then, with liver, pancreas, small bowel, and multivisceral transplantations. The main goal set for this team was to establish a deceased-donor program, not only in Shiraz, but also across the whole country.

The first deceased-donor kidney and liver transplantations were performed in 1992 and 1993, respectively. The continuous tireless efforts made by the team led to the establishment of one of the largest transplant centers in the world.

Now, after three decades of remarkable work we are preparing to celebrate the 10,000th solid organ transplantation performed in the center. According to the International Registry of Organ Donation and Transplantation (IRODaT), the deceased organ donation PMP and transplantation are on the rise (Fig 1).

This was achieved despite numerous obstacles we faced at the beginning. We managed to break through several sound barriers including obtaining the religious decrees (*fatwa*) from the clergy, passing the parliament brain death act, overcoming financial challenges, conducting extensive expansions on equipment facilities and space, *etc.*

Since the main goal of Shiraz Transplant Center from the beginning was to establish an ethical deceased donor program, the Center took all the measures needed to combat all unethical activities related to organ donation and has adopted a nationwide strategy to convince people to sign up the deceased organ donation program. Our center is the only one strongly against organ selling and kidney transplant from living unrelated, the Iranian model (Fig 2).

Figure 1.

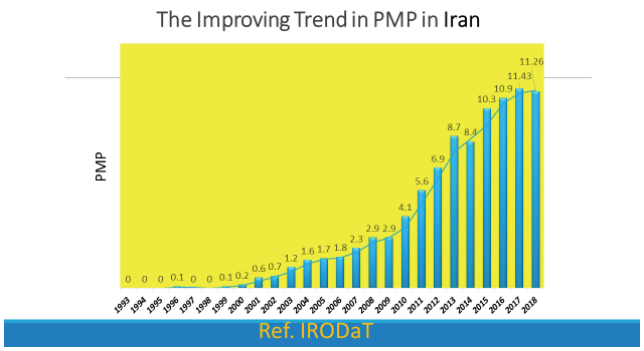


Figure 2A.

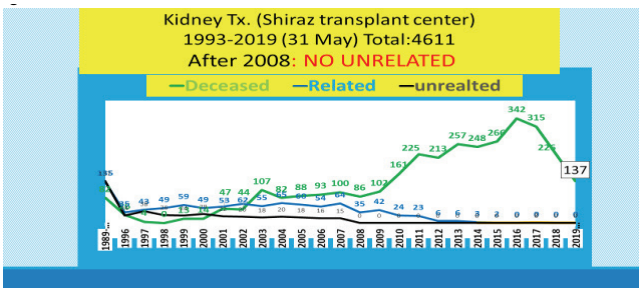
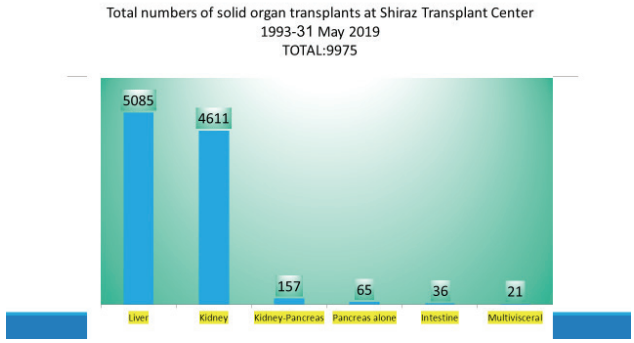


Figure 2B.



L15

Liver Transplantation in Egypt: When Success Becomes Your Worst Enemy

Refaat Kamel

Director, National Liver Transplantation Program
Professor of Hepatobiliary Surgery and Liver Transplantation
Ain Shams University, Cairo, Egypt

[Abstract not available]

L16

Kidney and Liver Transplantation Experience at Baskent University

Mehmet Haberal[1], Mahir Kırnap[1], Adnan Torgay[2], Gülnaz Arslan[2], Feza Yarbuğ Karakayalı[1], Gökhan Moray[1], Sedat Yıldırım[1]

[1]Department of General Surgery Division of Transplantation and [2]Department of Anesthesiology, Baskent University, Ankara, Turkey

Organ transplantation is the definitive treatment option for end-stage organ failure. By the early 1970s, experimental studies on liver transplantation had already been initiated by our team. On November 3, 1975, we performed the first renal transplantation in Turkey, with a kidney donated from mother to son.

This was followed by the first deceased-donor kidney transplantation, which was carried out at our center on October 10, 1978, using an organ supplied by the Eurotransplant Foundation and 1979the first local deceased-donor kidney transplantation was performed by our team.

We also founded The Turkish Organ Transplantation and Burn Treatment Foundation in 1980 to advance these interests. On January 21, 1982 some new articles were added to Law 2238, with the enactment of Law 2594, which allowed for deceased donation without consent from next-of-kin.

On December 8, 1988 our team successfully performed the first deceased liver transplant in Turkey and the region, followed by the first living-related segmental liver transplantation in Turkey, the Middle East, and Europe on March 15, 1990, and just one month later. On May 16, 1992, our team performed the first combined liver-kidney transplantation from a living-related donor, which was the first operation of its kind anywhere in the world.

In 2001, the Ministry of Health established the National Coordination Center as an umbrella organization to promote transplantation activities, especially for deceased donor organ procurement. However, although transplantation activities are accelerating day by day all around the country, deceased donors are still far below the desired rates. Yet only 30% of our organ transplants are from deceased donors. From November 3, 1975 to September 2019, our team performed 3052 kidney transplants (2346 LD and 706 DD) and 642 liver transplants (438 LD and 204 DD).

L17

The Value of Multi-Disciplinary Teams in Transplantation

Stefan G. Tullius

Chief, Division of Transplant Surgery
Director, Transplant Surgery Research Laboratory
Brigham and Women's Hospital
Professor of Surgery, Harvard Medical Scholl, Boston, MA, USA

Organ transplantation, unique in many ways benefits from the input of a multi-disciplinary team. This approach has already been present with the first kidneys being transplanted at Brigham and Women's Hospital, an effort that had been supported by a multi-disciplinary team with input from surgery, urology, pathology and nephrology.

The multi-disciplinary approach contributes even more to the success of transplantation with more complicated patients being transplanted today challenged by surgical, medical, immunological, infectious complexities. Moreover, assuring compliance with complex immunosuppressive regimens is critical and the input of social work and psychiatry has been helpful in achieving those goals.

Here, we provide a summary on how multi-disciplinary teams in transplantation have evolved, discuss the value of the input by several specialties during all steps of the transplant process including evaluation, listing, surgery and the post-transplant course and demonstrate the value added by a multi-disciplinary approach.

L18

A Meta Analysis of Living Donor Characteristics and Long Term Outcomes in the US

Minnie Sarwal

Professor of Surgery, Division of Multi-Organ Transplantation, University of California San Francisco, CA, USA

Importance: There are limited resources providing post-transplant conditions that can occur in living donors (LDs) of solid organ transplantation. Consequently, it is difficult to understand possible post-donation outcomes in LDs.

Objective: We assembled a publicly available resource that is representative of the demographics in the United States (U.S.) national registry, which is maintained by the Organ Procurement and Transplantation Network (OPTN), administered by the United Network for Organ Sharing (UNOS). While UNOS/OPTN data is larger, it has limited follow-up information; hence we use our new resource to examine post-transplant outcomes in LDs.

Data Sources: The data for our resource and analyses stemmed from the ImmPort database (https://github.com/-cjieming/immTransplant). We also used data from the UNOS/OPTN national registry to determine representativeness.

Study Selection: We systematically curated data to obtain 20 ImmPort clinical studies (including both clinical trials and observational studies) with 11,263 LDs excluding deceased donors, > 95% missing data, and studies that don't have a complete data dictionary.

Data Extraction and Synthesis: The harmonization process involved the extraction of common features from each clinical study based on broad categories that included demographics, pre- and post-transplant data and standardization all units of measurements and definitions.

Main Outcomes and Measures: 36 post-donation events were identified, represented and analyzed via a trajectory network analysis.

Results: The curated data contains 10,869 living kidney donors (LKDs), with a median age of 39, 57% females, and 87% European descent. We focused on 9,558 LKDs with post-transplant data. We observed that 8,152 (85%) LKDs did not have recorded post-transplant events. The four most common events are hypertension, diabetes, proteinuria and post-operative ileus, which occur in 806 (8.4%), 190 (2.0%), 171 (1.79%), and 147 (1.54%) LKDs, respectively. 269 and 1,746 events occurred before and after two years of transplant respectively. We found that 1,575 (90%) of the events that occurred after two years of transplant were not related to surgical complications.

Conclusions and Relevance: The majority of events that occur after two years post-transplant are non-surgical, and could occur up to 40 years post-transplant. Our results support the construction of a national registry for long-term monitoring ofLDs. The study exhibits the value of secondary re-analysis of clinical studies, especially the insights that effective data visualization tools can provide into temporal and predictive trends in clinical outcomes.

L19

Technical Challenges and Innovations in Kidney Transplantation

Nasser Simforoosh

Department of Urology and Renal Transplantation, Urology and Nephrology Research Center, Shahid Labbafinejad Hospital, Shahid Beheshti University of Medical Science, Tehran, IR Iran

Kidney transplantation has been standard of care in management of patients with end stage renal disease (ESRD) for many years. In order to expand accepting and managing complicated situations in patients with ESRD, transplant team should be ready to find innovative solutions to prevent and manage pre, intra and post operative problems. In this presentation we will demonstrate our approach for the following scenarios: transplantation in patients with urinary diversion and augmentation, polycystic disease in recipients, tumors in transplanted kidney, ureter and bladder, challenges with right donor nephrectomy and transplantation, proper placement of donor kidney in recipient to prevent compartment syndrome, prevention and management of pseudoaneurysm in arterial anastomosis, and the role of laparoscopy in kidney transplantation.

L20

Assessing the Limits in Deceased Kidney Transplant Donation: Use of Extremely Elderly Donors and Outcomes in Elderly Recipients

Josep Lloveras

Hospital del Mar, Autonomous University of Barcelona, Catalonia, Spain

Patient survival with end-stage renal disease is longer after kidney transplantation (KT) compared with remaining on dialysis. However, this remains uncertain when receiving a deceased advanced age kidney donor, specially older than 80 years.

In a longitudinal mortality study carried out with the data of the Catalan Renal Registry including 2.585 patients over 60 years on dialysis and placed on KT waiting list, 1.084 received a first KT from a donor aged 60-79 years and 128 from a donor over 80. We calculated the adjusted risk of death through time-dependent non-proportional-hazard analysis and the adjusted risk of graft loss by means of a competing-risk regression analysis, considering patient death with functioning graft as a competing event. Considering all KT over 60 years (n=1.212), we assessed whether the benefit of transplantation varied per different recipient characteristics by calculating the interaction effect between all potential mortality risk factors and the treatment group. In comparison with those that remained on dialysis the relative risk of death 12 months after transplantation was 0.50 (95% CI \0.44-0.58\; p<0.0001) among 1.084 recipients from donors between 60-79 years, and 0.55 (95% CI \0.39-0.78\; p<0.0001) among 128 recipients from donors over 80 years old. Compared with kidneys from donors aged 60-79 years old, graft survival was significantly lower for kidneys from donors over 80 (SHR=1.55; 95% CI \1.00-2.38\; p=0.042).

Despite that KT from octogenarian deceased donors is associated with reduced graft survival, KT recipients have lower mortality rates than those comparative that remain on dialysis, even if the kidney came from an extremely aged donor.

L21

Ways to Overcome Organ Shortage: Increasing Donor Pool by Accepting Sub-Optimal Kidney Donors

Faissal A.M. Shaheen

Consultant Physician and Nephrologist, Head of Nephrology Department, DSFH, Riyadh, Saudi Arabia

There are many factors affecting organ donations worldwide; they include religious, legislations, economic, organ procurement organization (OPO), culture issues and the availability of commercial transplantation. Religious factors and presence of suitable legislation may not play a major role. Economic status probably plays a major role in organ transplantation; higher income increases the organ donation but this not uniform or universal. OPO, which is present in many countries, is considered to be one of the important factors to increase organ donation. Cultural factors also play a role in organ donation; too rigid opinion on not accepting the concepts of brain-death and organ donations is considered one of the factors which can affect organ donation rates. Commercial transplantations, is one of the obstacles to organ donation worldwide. If commercial transplantation is available, it may act as a disincentive to having a good organ procurement program. In countries such as Spain, USA and Australia, which may be considered the ideal models in the world, there is a very well-organized program which has increased organ donation considerably. Over the years, there has been a constant increase in the number of donor organs required for kidney transplantation. The total transplant picture is not too encouraging and we are transplanting only 10% of the global patient requirement worldwide. In the Arab world, we are transplanting around 3.4% which is very minimal if we compare it to the population of the Arab World, which is six hundred million. The added worry is that the number on the waiting list is increasing dramatically. In the Arab World, we have around 50% of potential living donors, who are either blood group or HLA incompatible with the recipient. To overcome this problem, we should perform desensitization of the patient or to have a program of kidney paired donation or combination of both. Kidney donation and transplantation with highly sensitized patients is still better than keeping the patient on dialysis. The major considerations are, what is the risk to the donor? Can the donor develop end-stage-renal-disease? Will diabetes post-transplant and post-donation be worse in people with one kidney or two kidneys and what is the incidence of post-donation hypertension and will the change in GFR over time be faster than in non-donors? Finally, in the young donor, should we require a higher GFR in order to retrieve a kidney from them? These crucial questions need answers soon because statistics show that living donation in France is around 10%, around 40% in the USA and about 80% in Saudi Arabia. In their study, Ibrahim et al showed that the survival of kidney donors and controls from the general population is almost the same after 35 to 40 years post-donation. There is no long-term risk to the donor; the risk is considered to be very minimal, 0.47% after 15 years of donation, as reported by Mjøen et al. An important issue that needs to be addressed is should we refuse donors with elevated fasting blood glucose or impaired glucose tolerance? The definition of diabetes and hypertension has changed over years. What was considered normal blood sugar in 1960-1990 is now considered frank diabetes. What was considered normal blood pressure is now considered hypertension. When we look at a donor with DM and hypertension, the effect on the kidney will not be significant after thirty years of donation and there is no significant change. Hence, we can accept diabetic and hypertensive donors, in their early stage, as organ donors. Regarding young donors, they have to contend with consequences of a single kidney

longer, the younger donors would not have reached the age at which hypertension, DM and other kidney diseases develop, and hence the outcome is unknown. Older donors have the lowest likelyhood of developing ESRD post-donation. As a general approach, young donors can be accepted if they have high GFR and we have to reject the young donor particularly those from ethnic minorities and/or extensive family history of CKD and we should not accept donors <18-years old. Prediction of the risk factors can easily be done pre-transplantation if the donor is diabetic, hypertensive, has proteinuria and the GFR is low, when we can predict the risk after organ donation. Ibrahim reported that 99% of the donors will never develop ESRD, 99% have good quality of life, 99% did not regret donating the organ and 95-99% described their donation experience as positive. Additionally, pre-hypertensive, pre-diabetic subjects can be safely considered for donation and although the young donors do well, the older healthier donor is preferred.

L22

Brain Death: A Dilemma between Science and Culture

Mustafa Al-Mousawi

President, Kuwait Transplant Society
Head, Kuwait Organ Procurement
Consultant Surgeon and Chairman, Organ Transplant Center, Kuwait

For thousands of years death was easily diagnosed by physicians and public when breathing and heart beats were absent.

In the sixties with increasing use of life support machines in the intensive care units a group of patients came to be labelled "irreversible coma". In 1968 Harvard Ad Hoc Committee came to a conclusion that these patients suffer from irreversible brain damage not compatible with life thus making a new definition of death, brain death.

In 1979 a special commission concluded that death is either by irreversible cessation of circulatory and respiratory functions or irreversible cessation of all functions of the brain. In 1981 uniform determination of death was adopted widely in the US and Europe.

Establishing the diagnosis of brain death was the key to increasing organ donors from deceased in the seventies onwards but in many parts of the world it collided with traditional definition of death based on cardiorespiratory criteria.

Respect for the deceased and body integrity is deep rooted in eastern cultures and religions although many meetings were held between physicians and religious leaders to explain brain death and despite resolutions accepting it but it continues to be controversial and not accepted by the majority of populations in the Muslim countries and even in non-Muslim ones such as Japan.

L23

How Did the War Affect Organ Transplantation in Syria?

Bassam Saeed

Chairman, Pediatric Nephrology Fellowship Program in Syria
President, Farah Association for Child with Kidney Disease in Syria
Immediate Past President, MESOT
Damascus, Syria

The war in Syria that started in March 2011 has destroyed much of the country's infrastructure including many hospitals. The total number of kidney transplants performed in Syria in 2010, the year before the war, was 385 transplants, then gradually declined to 154 transplants in 2013 (60% less), before it again started to increase and reached 251 transplants in 2018; however, this rate which is the most recent was still 35% less than what was performed in the prewar period. In addition, the number of operational kidney transplant centers has decreased from 8 to 4 centers. Unrelated-donor kidney transplant decreased from 70% during the years that preceded the crisis to 51% in 2018. More than 50% of physicians and surgeons involved in kidney transplant are not practicing transplant currently in their centers. Difficulties in the provision of immunosuppressive drugs for all patients in all provinces constitute a major challenge for the health authorities and transplant patients, especially patients who cannot arrange an alternate source. The project to initiate liver transplant came to a halt because of complex reasons especially the foreign trainers could not visit Syria. The autologous bone marrow transplant program continued to function, but in a smaller and irregular manner. The commitment of transplant teams despite the large challenges was, and still is, extraordinary.

In conclusion, all aspects of organ transplant have been affected, paralyzing new projects and negatively affecting existing programs.

L24

Recurrent Disease in Pediatric Renal Transplantation

Bassam Saeed

Chairman, Pediatric Nephrology Fellowship Program in Syria
President, Farah Association for Child with Kidney Disease in Syria
Immediate Past President, MESOT
Damascus, Syria

Renal transplantation (Tx) is the treatment of choice for end-stage renal disease. The risk of disease recurrence after renal Tx is relatively high in children and may lead to graft loss, representing 7–8 % of all graft failures. The current overall graft loss to acute rejection has become comparable to the rate of graft loss to disease recurrence. The spectrum of recurrence is rather wide and mainly depends on the primary disease itself, Recurrence of the full disease may be associated with either a high risk of graft loss (FSGS, MPGN, oxalosis, atypical HUS) or with a low risk of graft loss (IgA nephropathy, lupus, ANCA-associated glomerulonephritis).

Adequate strategies should therefore be added to kidney Tx, such as pre-Tx genotyping, adequate donor selection, specific immunosuppression and/or biotherapy, associated liver Tx, etc. Under such conditions, very few patients would be excluded from kidney Tx only because of a major risk of disease recurrence.

Changes in immunosuppression protocols during the last decades have not significantly influenced the incidence of recurring diseases post-Tx. Unfortunately, there is limited evidence on the management of post-Tx disease recurrence, and clinical practice is usually based on non-randomized and uncontrolled case series.

In the near future, the issue of disease recurrence after kidney Tx may benefit from new approaches to alternatives to organ Tx such as biotherapy, cell therapy, gene therapy, chaperone molecules, etc. The use of international registries and databases is of major concern in any project including interventional study.

L25

Living Donors: Altruism and Forgetfulness

Abdel Hadi Al Breizat

Director of Jordanian Center for Organ Transplantation Directorate, Amman, Jordan

Living donors endure several challenges throughout the organ donation process. The physical and health-related effects the donor may experience further compounded by social, emotional and psychological challenges including becoming a potential recipient! The donor's experiences throughout the donation process were not discussed sufficiently and in depth to understand how does the donor feel before , throughout and after the process of donation and what would be the motive and the discourage.

Furthermore, looking backward throughout the donor's journey and experience during donation process will also has beneficial effects in assessing the morbidity associated with living donation from a donor perspective, functional status after donation, and overall satisfaction with the donation process.

Pre-donation period is markedly characterized by a group of negatives emotions such as fear, anxiety, helplessness, confusion and emotional suffering.

Many of related conducted articles concluded that compromised mental health, strained relationship with the recipient, lack of financial resources, lack of support from family and friend during donation and pressure regarding donation are associated with poor psychological outcomes.

On the other hand, donors may experience better conditions and feelings during the pre-donation period in form of determination and optimism and usually they are triggered by many factors such as psychological and mental wellbeing of the donor, wonderful donor-recipient relationship and presence of supportive social environment.

Obviously, post donation period distinguished by positive feelings and markedly improved psychological and social conditions. These emotions include self-satisfaction, happiness, pride and increased support of organ donation. In addition to that, donors also expressed and felt that donation had positively influenced the donor-recipient relationship.

The most important factor in this distinctly positive state is the outcome of donation. The success of rescuing the life of end stage organ disease patient and the effective impacts on recipient's life had greatest effect on donor's positive experience. On contrary, recipients graft failure is the main underlying cause of more negatively experience in post donation period by the donors.

Directorate of the Jordanian Center for Organ Transplantation Recently conducted a study on a group of (162) living donors (kidney n=158) (liver n=4) to understand the experience of a random sample of living donors and to look for probable motives.

Motives drove the donors toward donation were discussed. In this study, social solidarity and the role of their religious beliefs were the most important motives. However, many of our donors invoked improving the recipient life, fear that patients will be "abandoned", to reciprocate and loving to give as other motives.

Finally, awareness and understanding of donor's experiences should be utilized to help health professionals, assist donors, recipients and their families throughout this process. The emotional suffering of living donors during the pre-donation period emphasizes the need for educational, social and psychological support in addition to medical evaluation. Donors who had post-donation positive experience can play a major role in educating and advocating for donation by living donors.

O1

Risk Factors of Acute Humoral Rejection and Predictors of Outcome in Kidney Transplant Recipients

Ayşenur Yalçıntaş[1], Burak Sayın[1], Didem Turgut[1], Gökhan Atay[1], Turan Çolak[1], Handan Özdemir[2], Mehmet Haberal[3]

Departments of [1]Nephrology, [2]Pathology, and [3]Transplantation, Baskent University, Ankara, Turkey

Introduction: Kidney transplantation is the choice of treatment in end-stage kidney disease patients. Acute humoral rejection is associated with higher rates of graft loss in kidney transplant recipients. Determining the risk factors of AHR is vital for preventing, early diagnosis and appropriate treatment of AHR that may be important in maintaining long-term graft survival in KT recipients. In our study, we analyzed the risk factors of AHR in KT recipients and negative impact of AHR on graft function.

Methods: 124 KT recipients (37 female, 30% and 87 male, 70%) who were diagnosed to have AHR in transplant biopsy were evaluated demographically and clinically. We also compared the graft outcome of 124 AHR patients with 75 KT recipients(24 female, 32% and 51 male, 68%) who had no diagnosis of AHR.

Results: Mean age in AHR group was 38,2±13,6 years while non-AHR group had a mean age of 34.4±13.0 years. The mean age of the donors in AHR group (48.0±13.2 years) was significantly higher compared to (47.1±11.4 years) donors of non-AHR group ($p<0.05$). AHR group experienced 15.3% rate of graft loss while non-AHR group had no graft loss ($p<0.05$). Positive PRA levels, blood transfusion prior to KT were found to be risk factors of AHR in KT recipients, on the other hand KT recipients who received Tacrolimus had lower AHR episodes compared to KT recipients who received Sirolimus or Cyclophosphamide.

Conclusion: AHR is associated with high rates of graft loss in KT recipients. Avoiding blood transfusion, lowering PRA levels, choosing younger donors and using Tacrolimus in high risk KT recipients may reduce AHR rates and provide better graft survival.

O2

Impaired Iron Metabolism and Anemia as a Factor Influencing a Patient for Transplantation for Chronic Kidney Disease

RN Akalaev[1], ON Rzhevskaya[3], HE Anvarov[1], AU Rakhimov[2], HA Khashimov[2], GZ Aripkhodzhaeva[2]

[1]Republican Scientific Center for Emergency Medicine; [2]Tashkent Institute for Advanced Medical Studies, Tashkent, Uzbekistan; and [3]SRI SP named after N.V. Sklifosovsky, Moscow, Russia

Introduction: A kidney transplant is the most effective treatment for the terminal stage of chronic renal failure, which is the logical conclusion of chronic kidney disease. In this case, mainly patients undergoing program hemodialysis are referred for transplantation. They have anemia in about 90% of their bodies. When deciding on the indications and contraindications for kidney transplantation, doctors have to take into account the presence of anemia and iron metabolism disorders. Our objective was the determination of the incidence of anemia, serum iron level and the average volume of red blood cells in individuals with abdominal obesity (AO) and metabolic syndrome (MS) and their effect on determining the need for a kidney transplant.

Methods: A simultaneous study was conducted on 200 patients from the contingent of the TOMMC clinic receiving hemodialysis software (average age 45.07 ± 0.82 years). Patients underwent general clinical research methods: questioning, anthropometry, body mass index (BMI). Laboratory and instrumental studies: complete blood count (OAK) detailed, general urinalysis (OAM), lipid metabolism: total cholesterol, high-density lipoprotein cholesterol (HDL cholesterol), low-density lipoprotein (LDL), very low-density lipoprotein (VLDL), triglycerides, carbohydrate metabolism, fasting and post-exercise glucose, and serum iron. If a woman had 120 g/L and a man had 130 g/L of hemoglobin in their blood, they were diagnosed with anemia.

Results: Among the examined individuals, 159 people had AO (79.5%), and in 41 (20.5%) patients, the waist was within normal limits. Among people without AO, anemia was detected in 19 (46.3%) people, anemia was diagnosed in 38 (23.9% $p<0.01$). 54 (27%) patients had MS. Moreover, among individuals with AO, 32.5% of individuals had MS. The incidence rate of anemia in people without MS was 48 people (32.9%), while nine (16.7%) of patients had MS on top of anemia. The level of serum iron in individuals without AO was 16.65 ± 1.73 μmol/L, and in individuals with AO 18.51 ± 0.66 μmol/L. When comparing the level of serum iron in patients with and without MS, this indicator was higher in iron in patients with and without MS; this indicator was higher in the former (18.94 ± 1.06 μmol/L versus 17.82 ± 0.78 μmol/L). The MCV level was significantly higher in individuals with AO (86.6 ± 0.47 A versus 82.98 ± 1.37 fl, $p<0.05$) and tended to increase in individuals with MS (87.19 ± 0, 71 fl versus 85.37 ± 0.59 A, $P>0.05$). Thus, the percentage of anemia in people with AO (23.9%) and people with MS (16.7%) is quite high.

Conclusion: As a result of the study, the urgency of the problem of anemia in AO and MS was confirmed. The prevalence of anemia in MS was revealed, which worsens the prognosis and leads to the development of cardiovascular complications, which causes renal transplant rejection in such patients.

O3

Limbal Stem Cell Transplantation for Restoration of the Ocular Surface Health in Bilateral Limbal Stem Cell Deficiency

Leyla Asena, Dilek Dursun Altınörs, Sibel Oto

Department of Ophthalmology, Baskent University, Ankara, Turkey

Introduction: The aim of this study was to report the results of limbal stem cell transplantation in patients with bilateral limbal stem cell deficiency (LSCD).

Methods: Four patients (2M/2FM) with bilateral limbal stem cell deficiency were treated in Baskent Univesity Faculty of Medicine, Department of Ophthalmology between 2015 and 2018. Living-related conjunctival allograft (Ir-CAL) transplantation was performed in 3 cases and cadaveric keratolimbal allograft (KLAL) transplantation was performed in 1 case.

Results: The mean age of the patients was 33.8±13.8 years (range; 14-46 years). The etiology of bilateral LSCD was different for each patient including Sjögrens' Syndrome, Steven Johnsons Syndrome, chemical injury (alkali burn) and congenital aniridia. The mean duration of preoperative follow-up was 13.3±8.1 months (range; 4-23 months) and treatment modalities used during this period were topical corticosterois, topical cyclosporin A, otologous serum eye drops, vitamin A ointment, topical anti-VEGF agents and frequent use of non-preserved artificial tears. Punctal plugs were used in 2 cases. Visual acuity increased in all patients except in one case who developed fungal keratitis 2 months after KLAL transplantation. All patients were given systemic 1-1.5 mg/kg Cyclosporin A postoperatively for prevention of a rejection reaction. The mean postoperative follow up duration was 25.8±16.6 months (range; 5-42 months). Corneal transplantation was performed simultaniously in one patient and, 1 and 2 years after LSCT in two other patients.

Conclusion: Treatment and restoration of the ocular surface health is challenging in bilateral LSCD. Living-related conjunctival allograft transplantation and cadaveric keratolimbal allograft transplantation are currently available surgical techniques in this group of patients. Tissue engineering or newer tissue culturing techniques are bound to play a significant role in the future because the goal is to develop nonimmunogenic tissues that decrease or eliminate the need for systemic immunosuppression. In the future, more refined treatment options such as transplantation of cultivated limbal epithelial cells might be available.

O4

Long Term Liver Transplant Survivors

Mehmet Haberal[1], Ebru H. Ayvazoğlu Soy[1], Gülnaz Arslan[2], Gökhan Moray[1], Sedat Boyacıoğlu[3], Figen Özçay[4], Adnan Torgay[2]

Departments of [1]General Surgery Division of Transplantation, [2]Anesthesiology, [3]Gastroenterology, and [4]Pediatric Gastroenterology, Başkent University, Ankara, Turkey

Introduction: Liver transplantation (LT) is the gold standard treatment of end stage liver failure. There have been reports about short and mid-term survey of liver transplants. However, few reports mention long-term survey. In this study, we aimed to report the outcomes of our long-term LT survivors.

Methods: Our team performed the first deceased-donor LT of Turkey in 1988. From 1988 until 2018 we performed a total of 629 LT (336 adult LT, 293 pediatric LT) procedures, of which 347 LT recipients are still alive with normal graft functions (56%). 324 patients received their transplant prior to December 2008. Of these 324 patients, we retrospectively analyzed 174 patients who survived for more than 10 years with normal graft function after LT.

Results: Of the 174 long-term survivors (LTS); 10 LTS survived for ≥20 years, 35 LTS survived for 15-19 years, 123 LTS survived for 11-14 years and 11 LTS survived for 10 years. Five patients had retransplantation due to chronic graft rejection and 4 of them are alive with normal graft functions after second LT, surviving for 12, 20, 28, 29 years after the first LT. We lost one of them during the early period of the second LT, which was the 19th year of his first LT. The rest of the 174 LTS (80 adult, 9 pediatric; 36 deceased donor LT, 138 living donor LT) are alive with normal liver functions. Acute rejection episodes are seen in 71 of them (40%) and 7 of them were steroid resistant. We had 30 (17%) drug induced complications; 9 diabetes mellitus, 18 neurological disorder, 3 nephrotoxicity. Ten de nova malignancy were also seen and successfully managed; 5 lymphoma, 2 squamous cell carcinoma, 1 GIST, 1 thyroid papillary carcinoma, 1 multiple myeloma. There were also 31 HCC patients in our LTS series: 13 LTS were beyond Milan criteria, 6 LTS had incidental HCC and 12 LTS were within Milan criteria.

Conclusion: Long-term survival can be achieved by liver transplantation in experienced hands. Among the few reports of long-term survival evaluation, survey, ours is one of the largest series in the literature.

Acknowledgments: The authors would like to acknowledge the valuable contributions of Nevzat Bilgin MD, Nebil Büyükpamukçu MD, Hasan Telatar MD, and Mualla Karamehmetoğlu MD, in the establishment of transplantation activities in Turkey and for their personal efforts for many of the patients discussed in this study.

O5

Adult to Adult Living Donor Liver Transplantation in Uzbekistan

Feruz Gafurovich Nazirov, Lyudmila Alikhanovna Nazirova, Andrey Vasilyevich Devyatov, Mirshavkat Mirolimovich Akbarov, Azam Khasanovich Babadjanov, Umid Ravshanovich Salimov

Republican Specialized Scientific and Practical Medical Center of Surgery named after acad. V.Vakhidov, Tashkent, Uzbekistan

Introduction: As is known, liver transplantation (LT) today had acquired the features of routine intervention among many countries worldwide. Today, LT is the only radical way of treatment of patients with advanced chronic liver disease (CLD). Over the years the nosological range of diseases requiring LT had expanded. However, the Central Asian region is still endemic in terms of the prevalence of viral hepatitis. Thus, the annual demand for LT in Uzbekistan is more then 400-500 operations per year. In this regard, in 2018 transplatology development program in our country was launched, and as a result the first LT was carried out on February 2018, under the guidance of Academician F.G. Nazyrov at the RSSPMCS named after acad V.Vakhidov.

Methods: From February 2018 by today 4 living adult donor LT (LDLT) to an adult recipient were performed. The average age of the recipients was 28 years (18 - 35 years). Weight was 61.4kg (17.9 - 25.6 kg). High 178 cm. (171 -. 185 kg). All patients were diagnosed with CLD due to viral hepatitis. All patients were assigned to the Child-Pugh class B. The average MELD score was 17 (9-17) points. GRWR index was 1.3 (1.1- 1.5). Graft weigh was 707.5 gr. (680 - 1100 gr.). Standard caval anastomosis was formed with additional PTFE graft prosthetic of the lower segmental veins. Porto-portal anastomosis was applied with a continuous end-to-end suture. Arterial anastomosis was made end to end without any pasty. In two cases, the "parachute" technique was used. Biliary anastomosis was formed on a Roux-En-Y stump in two cases. Two other patients had an end to end bilio-biliar anastomosis. The average duration of surgery was 571.2 minutes (485-720 minutes). Monoclonal antibodies were used as induction immunotherapy in two cases. Intraoperative blood loss was 1200 ml. (1400 - 1000 ml).

Results: patients spent an average of 10 ICU days (8-12). Complicated postoperative period was observed in two patients. Complications were grade as type II and IIIa according to the Clavien-Dindo classification. In one case segmental portal vein thrombosis was observed which was managed conservatively. Leakage was observed in one patient and had required puncture of the abdominal cavity. Two patients were discharged taking only calceneurin inhibitors. In the other two cases, immunosuppression was achieved using a three-component scheme. The average length of hospital stay was 64.7 (58 - 70) days. No primary graft nonfunctioning, rejection episodes or viral hepatitis recurrences was observed.

Conclusion: LDLT is a safe intervention and can be carried out safely in the Republic. However without a doubt such surgery is one of the most technically complex surgical interventions that require a polyvalent medical approach and can only be performed in large medical centers.

O6

Temporary Abdominal Closure Technique after Pediatric Liver Transplantation: Single Center Experience

Mahir Kırnap[1], Aydıncan Akdur[1], Sedat Yıldırım[1], Gökhan Moray[1], Adnan Torgay[2], Mehmet Haberal[1]

Departments of [1]Transplantation and [2]Anesthesiology, Baskent University, Ankara, Turkey

Introduction: Primary abdominal wound closure is performed at the completion of liver transplantation in most patients. However, this is not always possible in pediatric recipients. The shortage of size-matched donor organs for pediatric patients means that occasionally it is necessary to use whole livers that are larger than can be accommodated comfortably in the child's abdomen. In addition, bowel distension and edema from portal vein clamping and the necessity to maintain the bowel outside the abdominal cavity for a prolonged period during the transplant procedure also decrease the available space in the abdominal cavity. In an effort to avoid a tight abdominal wall closure, bowel decompression, stretching the abdominal wall, and temporary patch closure can be used. The present report outlines our experience with temporary patch closure of the abdominal wall after pediatric liver transplant.

Methods: Our team performed the first LT of Turkey in 1988. Since 1988 we performed 629 LT (336 adult LT, 293 pediatric LT) procedures at our centers. We evaluated the data of 191 liver transplants that were performed in patients under 10 years of age. Living donor left lateral lobe grafts were used in 169 patients (88%) and deceased donor whole grafts in 22 patients (12%).

Results: Temporary closure with the bogota bag patch was necessary after 31 transplant procedures (16,2%), 3 of which involved whole livers and 28 of which were left lateral lobe grafts. The age range was 5 months to 10 years (median, 30 months). Temporary abdominal closure technique was preferred in 22 patients because the abdomen could not be closed during surgery. The procedure was also used in 9 other patients who had primary abdominal wall closure but who required a posttransplantation laparotomy: 3 for thrombectomy of portal vein thrombosis and 6 for wound dehiscence associated with ileus and marked abdominal distension. Five patients died due to sepsis or bleeding in the early postoperative period. Removal of the patch and delayed wound closure was achieved in all 26 patients. This was possible as a single operation in 12 cases. Gradual reduction in the size of the wound patch was necessary in the other 14 patients, 7 of whom required 9 procedures, 4 needed 7, and 3 needed 4 to complete the abdominal wall closure.

Conclusion: In pediatric patients with difficult abdominal closure after liver transplantation, temporary patch closure is the treatment of choice. Our preference has been reinforced silicone sheeting, which allows minimal adhesion formation between the patch and abdominal viscera, and the transparent nature of the material provides a window for inspection of the donor liver.

O7

Living Donor Liver Transplantation: Current Issues of the Donor Hepatectomy

Feruz Nazirov, Lyudmila Nazirova, Mirshavkat Akbarov, Azam Babadjanov, Umid Salimov

[1]Republican Specialized Scientific and Practical Medical Center of Surgery named after acad. V.Vakhidov, Tashkent, Uzbekistan

Introduction: The number of organ transplantations worldwide is growing fast, while the gap between the demand and available organ supply still exists. The indisputable advantage of the living donor liver transplantation is its independence from the cadaveric organs supply, which greatly facilitates many complex moral, ethical and regulatory aspects related to the deceased donation. In February 2018, after the project law on the human organs and tissues transplantation came into force, the first liver transplantation was carried out under the guidance of academician F.G. Nazirov at the "RSSPMCS named after acad V.Vakhidov".

Methods: From February 2018, 4 living donor liver transplantations (LDLT) from an adult donor to an adult recipient were performed. The donors average age was 31 years (26–40 years). The average weight was 67.5 kg (58-74.5 kg). The average height is 173.2 cm (162-185 kg.) In 3 cases, the donors were siblings of the recipients, in one case one of the parents. All patients were examined according to the recommendations of the Ministry of Health of the Republic of Uzbekistan. Patients underwent right lobe hepatectomy. The average graft weight/recipient weight ratio (GWRW) was 1.3 (1.1-1.5). Average graft weight was 707.5 grams. (680-1100 g).

Results: The average surgery time was 382.5 minutes (265-460) minutes. The volume of intraoperative blood loss was on average of 487 ml. (250-800 ml). All patients were extubated before transfer to the ICU. Average ICU stay was 3.5 days (1-7). Mild exercises began from the second day after surgery. The volume of postoperative infusion of the fresh frozen plasma was 5 doses, red blood cells 0 doses, albumin - 325 ml. (200-600 ml). The average hospital stay was 11 days (12-15). None of the patients had a complicated course of the post operative period. All patients were discharged in satisfactory condition.

Conclusion: Donor right lobe hepatectomy significantly differs from the standard hemihepatectomy performed in focal lesions. One of the most important stages in LDLT is the anatomical and volumetric assessment of the liver in pre-operative period, according to which the sufficiency of the graft and the future remnant is evaluated. A surgical technique itself requires perfect anatomical preparation of extraorgan vascular structures. In case of presence of a major inferior veins they should be grafted in order to prevent graft venous stasis.

O8

Analysis of Risk Factors for Posttransplantation Diabetes Mellitus: Single Center Experience

Nazlı Gülsoy Kırnap[1], Yusuf Bozkuş[1], Mehmet Haberal[2]

Departments of [1]Endocrinology and [2]Transplantation, Baskent University, Ankara, Turkey

Introduction: Post-transplantation diabetes mellitus (PTDM) may severely affect the short and long-term outcomes of graft and patients' survival in kidney transplant recipients. According to recent studies, annual incidence rates ranging from 7% to 39% are reported. Aim of this study is to determine the possible risk factors in patients diagnosed with PTDM.

Methods: From November 1975 to May 2019, we performed 3012 kidney transplantation (KTx) procedures at two different centers by the same transplantation team. We retrospectively analysed the data of diabetes mellitus (DM) developing after KTx performed in Baskent University Transplantation Centers between 2010 and 2019. The diagnosis of PTDM was made according to the American Diabetes Association 2001 criteria Fasting plasma glucose (FPG) >126 mg/dL (7 mmol/L) in 2 measurements or random blood glucose>200 mg/dL (11.1 mmol/L)) in 12 months after transplantation.

Results: A total of 400 nondiabetic, end stage renal disease (ESRD) patients met initial entry criteria of whom 270 patients receiving hemodialysis, 26 patients receiving peritoneal dialysis, 104 patients were preemptively performed KTx; 292 patients were male and 108 patients were female. Among 400 recipients, 62 (15.5%) patients developed PTDM. We compared the patients who were diagnosed with PTDM and those who did not. The incidence of ESRD etiology (p=0.42) type of dialysis (p=0.66), dialysis therapy duration (3.9 vs 4.4 years p=0.46), alive or cadaveric donor (p=0.51), initial FPG (90 vs 85 mg/dl p=0.34) and graft survival after KTx (62 vs 54 month p=0.37) were similar in both groups. Patients developing PTDM were significantly older (mean age 47 vs 35 years p=0.032). In the univariate analysis the only factor associated with PTDM was age.

Conclusion: According to the results of this study, only age of the recipients seems risk factor for PTDM. The older recipients should be examined more carefully for post-transplant diabetes and less diabetogenic immunosuppressive drugs may be preferred.

O9

Functional State of the Kidneys in Patients with Preclinical Stage of Diabetic Nephropathy Caused By Diabetes Mellitus type II

F. Babayev, F.Z. Sardarli, L.B. Bakhtiyarova, M.G. Hasanova, Sh.M. Djabbarov, Kh.R Eminbayli

Azerbaijan State Training Institute for Doctors named after A. Aliyev, department of Nephrology, Baku, Azerbaijan

Introduction: Nowadays the epidemic of Diabetes Mellitus (DM) invades every second person. There are more than 500 billion patients with Diabetes Mellitus all around the world. Considering the relevance of this problem, the goal of our research was to study the functional state of the kidneys in patients with Diabetes Mellitus type II. One of the most terrible complications of DM is Diabetic Nephropathy (DN) which is now in the first place in need of replacement therapy of renal insufficiency (Hemodialysis, kidney transplantation). Diabetic Nephropathy pushed out such disease like Glomerulonephritis to the second place and reaches up to 30 to 50 % of all patients which are under hemodialysis.

Methods: 42 patients with the diagnosis diabetes of the 2nd type without albuminuria have been examined and 10 patients with a normal level of arterial blood pressure with diabetes of the 2nd type have made control group. The functional state of kidneys was studied by levels of glomerular filtration rate (GFR), average kidney volume, indicators of intra renal hemodynamics and urinary NO (nitric oxide) levels.

Results: During our research the percentage of patients with renomegaly exceeded than patients with hyperfiltration. In other words, there wasn't hyper filtration in some patients with increased size of kidneys. This may indicate that, in the mechanism of increasing of kidneys' size underlies a number of other factors such as growth factor, hormonal and metabolic disturbances besides hyper perfusion factors. The indicators of intra renal hemodynamics in examined patients differ from that of control group. So, the indicators characterized peripheric vascular resistance, RI and PI, were reliably reduced and amount 0.50 ($p<0,001$) ; 0.72 ($p< 0,001$) respectively, Vmax was increased up to 0.95 ($p<0.001$). The percentage of patients with disturbed indicators of intra renal hemodynamics is approximately 64%. In this patients there revealed direct correlation between GFR (glomerular filtration rate) and Vmax ($r = 0.93$). Besides, there were increased urinary NO in patients with Diabetic Nephropathy compared with control group: 15.8 vs 14.8 ($p< 0.001$). Increased levels of NO in patients with prealbuminuric stage of Diabetic Nephropathy caused by Diabetes Mellitus type II speak about severe endothelial dysfunction. Endothelial cells react on that tension that emerges during the pressure of blood flow on them by producing powerful vasodilator factor NO. The more blood flow, the more active NO secretion by endothelial cells and manifest dilation of arteries.

Conclusion: During the research it has been established that at 68% from the examined patients hyper filtration was noted. At 76% increase in average volume of kidneys, at 72% change of parameters of intra renal hemodynamics, at 64% of increase in the NO level in urine. The conducted research allows to draw a conclusion that already in a prealbuminuiric stage of a diabetic nephropathy in kidneys there are changes demanding medicamentous correction.

O10

The Immunological Status in Patients with End-Stage Chronic Renal Disease

I. M. Usmonov, S.S. Ismoilzoda, M.M. Saidmudinov

State Institution "National Scientific Center for Human Organs and Tissue Transplantation", Ministry of Health of the Republic of Tajikistan, Dushanbe, Republic of Tajikistan

Introduction: The end-stage chronic renal disease (ESCRD –stage 5) is the outcome of most Chronic Kidney Disease. The problem of their multimodality therapy is one of the urgent and largely not resolved problems of therapy, pediatrics and surgery. Our goal was to assess the impact of end-stage chronic renal disease on immune status.

Methods: The results of testing and treatment of 53 patients with the Chronic Kidney Disease Stage 5, hospitalized in the State Institution "National Scientific Center for Human Organs and Tissue Transplantation" and the City Scientific Center for Reanimation and Detoxification of Dushanbe, are analyzed. The immune status was evaluated on the basis of determining the composition of peripheral blood lymphocyte subpopulations using monoclonal antibodies: CD2, CD3, CD4, CD8, CD19, CD25, polyclonal immunoglobulin levels according to Matcini: IgA, IgM, IgG, IgE, non-specific component of immune system: phagocytosis activity, Nitroblue Tetrazolium test (NBT-test), cytotoxic immune cells (CIC).

Results: Patients with chronic kidney disease stage 5 revealed a variety of quantitative and functional changes in the immune system. In this state the immunodeficiency leads to an increase in the frequency and aggravation of the severity of infections in patients.

Conclusion: Patients with the Chronic Kidney Disease Stage 5 have a secondary immunodeficiency state associated with the suppression of processes for maintaining the level of lymphocytes in the periphery and resulting in impaired immunoregulation. In these patients, the most typically is the development of bacterial complications before transplantation.

O11

The Inverted Renal CD4/CD8 Ratio Associated with the Development of Transplant Glomerulopathy and Arteriosclerosis

B. Handan Özdemir[1], Alev Ok Atılgan[1], Aydan Akyüz Özdemir[2], Mehmet Haberal[3]

Departments of [1]Pathology, [2]Public Health, and [3]Transplantation, Baskent University, Ankara, Turkey

Introduction: Inversion of the CD4/CD8 ratio (<2) identified as a hallmark of immunosenescence and an independent predictor of the development of arteriosclerosis and mortality in the general population. We aimed to assess the influence of an inverted renal CD4/CD8 ratio on the development of transplant glomerulopathy (TG) and transplant arteriosclerosis (TA).

Methods: All indication and follow-up biopsies of 161 patients included in the study. Diabetic patients excluded from the study. Both interstitial and glomerular CD3, CD4, CD8 positive lymphocytes, leukocytes, and macrophages graded. Patients separated into two groups as Group 1(CD4/CD8 <2) and Group 2 (CD4/CD8 ≥2) in regards to the ratio of interstitial CD4 and CD8 positive lymphocytes. Follow-up biopsies analyzed for the development of TG and TA.

Results: Among 161 patients 72 were in Group 1, and 89 were in Group 2. No significant difference found between the two groups in regards to cardiovascular risk factors such as age, gender, mean cholesterol level, and hypertension. The mean CD4/CD8 ratio found to decrease with the increasing time of hemodialysis (HD) ($p<0.001$). The development of ABMR, vascular rejection and the mean number of AR episodes found higher in Group 1 (1.57±0.9) than Group 2 (0.7±0.7) ($p<0.001$). The mean CD4/CD8 ratio showed a negative correlation with glomerular and interstitial leukocyte and macrophage infiltration ($p<0.001$). Compared to Group 2, the development of TG and TA found higher in Group 1 ($p<0.001$). Also, the mean time of the development of TG and TA was seen earlier in Group 1 than Group 2 ($p<0.001$). The mean value of the CD4/CD8 ratio was 1.1±0.8 and 1±0.7 for patients who developed TG an TA respectively, while it was 2.3±0.8 and 2.4±0.8 for patients who did not develop TG and TA respectively. Overall -10-year graft survival was 47% and 88% for Group 1 and Group 2 patients respectively ($p<0.001$).

Conclusion: Uremia and HD associated proinflammatory condition underlies the impaired T-cell system by causing premature immunological aging and this immunosenescence virtually unchanged after transplant. We found that mean CD4/CD8 ratio found to decrease with the increasing time of HD and in turn predisposing early onset of TG and TA. We identified an inverted CD4/CD8 ratio as an immunological risk profile for the high incidence of AR, early onset of TG and TA. Thus, close monitoring must be done to these patients.

O12

Organ Transplantation in the Republic of the Uzbekistan

U.K. Yuldashev[1], B.T. Daminov[2]

[1]Republican Specialized Scientific and Practical Medical Center, [2]Nephrology and Kidney Transplantation Ministry of Health of Republic of Uzbekistan, Tashkent, Uzbekistan

Little Bit of History

Academician O.A. Aripov has completed the first kidney transplant on the 14th of September in 1972. On the basis of the law on transplantation of human organs and tissues adopted in 1970. Between 1972 and 1978, a total of 354 kidney transplants were performed in Uzbekistan. Of these, from a cadaveric donor-311, from a living related donor - 43.

Then, after the collapse of the Soviet Union, on the basis of the Order of the Ministry of Health of the Republic of Uzbekistan from 2004 to 2006, 48 transplants from a living, related donor were performed. In 2010-2015, in the RSCH them. Academician V.Vakhidov 49 kidney transplants from a living closely related donor were performed.

Legal Aspects

Regulatory framework- Cabinet Resolution of 2017 on closely related kidney and liver lobe transplantation

The Legislative Framework

Presumption of the requested consent. Passed the discussion on the first reading of the legislative chamber of Oliy Majlis of the Republic of the Uzbekistan. Preparing for discussion on the second reading of the legislative chamber of Oliy Majlis of the Republic of the Uzbekistan

Organizational Aspect

National authority governmental model Experts Committees-ministry of Health License procedures - ministry of Health and transplant centers National coordination system- absent Donation Activities: Deceased donor activity -absent Intensive care capacity (number of beds and ventilators etc.) – not currently provided Donation professionals (number and profile of coordinators, certified or not) - not currently provided Public education – A draft Law on the Transplantation of the organs and tissues on the basis of the inform consent is currently under discussion.

Transplant Services

Solid organ transplant centers- 3 Transplant centers Tissue transplant centers and Bone marrow/stem cell transplant centers – 1 center Solid organs and bone marrow transplants (2018: number of transplants living donor-123) Waiting lists on kidney transplant – 1269. Waiting lists on liver transplant -450 Deceased donor activity -absent Intensive care capacity (number of beds and ventilators etc.) – not currently provided Donation professionals (number and profile of coordinators, certified or not) - not currently provided Training Programs Introducing a program for the implementation of transplant technology: Training highly qualified medical personal Created the Program for: transplant surgeons - 10, nephrologists -6, hepatologists-3, anesthesiologists-4, morphologists-4, transplant nurses-12 to study in the leading centers of the world. 2019-2021 – 39 specialists.

Registry Systems

IT software, Registry and Waiting list, In the process of making

What is needed for the development of the Transplantation branch of medicine in the Republic of Uzbekistan? 1. Adoption of the Law "On Organ Transplantation of Human Tissues and Cells". 2. Training specialists involved in the transplantation of organs, tissues and human cells. 3. The development of transplantation science.

Table 1. Results of Kidney transplantation in Uzbekistan
TK hospital mortality Later mortality

Year	Kidney Transplants	Hospital Mortality	Later Mortality
2016	14	1	0
2017	48	1	1
2018	82	3	2
2019	32	0	3
TOTAL	**176**	**5**	**6**

O13

Current State of Transplantation in Azerbaijan

F. Babayev, H. Ismayilov
Republican Hospital of Urology, MedService PC, Baku, Azerbaijan

History of transplantation in Azerbaijan dates back to 1971. At that time, the Republic of Azerbaijan was part of the USSR. In 1971, academician M. Javadzada performed kidney transplantation for the first time in the Caucasus. In those time kidney transplantation has not yet been done either in Iran or in Turkey. In 1971-1982, 30 kidney transplantations were performed. The live donor and cadaver kidney were also used in the operations. There were no kidney transplantations in Azerbaijan in 1982-2000. However this program was stopped due to reasons that are unknown to us and then subsequent period the kidney transplantation operation in Soviet Azerbaijan were no longer carried out. After the collapse of the Soviet Union in 1991 the Republic of Azerbaijan declared is independence. After independence our republic began to integrate in all areas, into more developed countries. In parallel the health sector also began to develop. In 2000-2008, fewer surgeries were performed by surgeon transplantologists invited in Azerbaijan. In this time the specialists from the Islamic Republic of Iran underwent about 20 donor living donor transplants. But this program was not organized professionally, because there was not a single Azerbaijani doctor who performed this operations. The patients again went to foreign countries for surgery. During this period, patients were operated mainly in the Islamic Republic of Iran, Turkey, Russia, Ukraine, and Germany. The history of professional activity in transplantation in the Republic of Azerbaijan began from 2008. Since 2008, local liver transplantation has been initiated by local specialists and kidney transplantation has been started in 2011. Today 5 transplantation centers function in Azerbaijan: Republican Clinical Urology Hospital, Central Neftchilar (oilmen) Hospital, Central Customs Hospital, Republican Diagnostic Center and Medical University Surgery Clinic. In 2008-2018, organ transplantation was performed to 701 patients, of which 496 persons were males and 205 were females. The age of the patients was between 6 and 65 years. In addition , now some transplantation centres, such us Urology Centre named by M. J. Javadzada, the Republic Diagnostic Centre and the Central Clinic Hospital perform 8-12 kidney transplantation per year. In 2018 89 kidney, 14 liver, 8 cornea and 4 bone marrow transplantations were performed in Azerbaijan. All these operations were performed using live donors. At the same time, 2 kidney transplantation was performed in Turkey, 3 in Tajikistan, 2 in Russia, 2 in Iran and 1 in Germany. Today overall 762 patients with transplanted kidneys, 101 with transplanted liver are registered in Azerbaijan. Patients are provided with Prograf, Cell Cept, Sandimun, Rapamun, Myfortic, Sertican preparations by the state. Unfortunately, the cadaveric transplantation program still does not work in our country and the transplantation is performed only from living donors. Although a law on transplantation was adopted in 1999 using brain death and dead body organs, it does not seem to be practically functional. However in the near future a cadaveric transplantation will be launched in the Azerbaijan that integrates into the European community and patients who have no living donors will also be able to be transplanted. At present, the law is fully prepared by Parliament and it is expected to be implemented in the nearest future.

O14

Related Liver Transplantation in the Republic of Tajikistan

S.F. Gulshanova, S.S. Ismoilzoda, M.M. Mirgoziev, F.B. Mavlonov

Department of Innovative Surgery and Transplantology, Tajik State Medical University name Abuali Ibni Sino; National Research Center for Human Organ and Tissue Transplantation of the Ministry of Health and Social Protection of the Population of the Republic of Tajikistan, Tajikistan

Liver transplantation is currently the only radical method of treating patients with end-stage chronic diffuse diseases, congenital anomalies, and some malignant liver diseases. Transplantation of a part of the liver from a living donor, more often a relative, to a recipient, is currently taking increasingly strong positions in the treatment of a number of congenital and acquired liver diseases. The purpose of the work is the development of criteria for the selection of related donors in liver transplantation and the principles governing the surgical tactics of donor surgery. In the Republic of Tajikistan, using modern medical technologies and a multidisciplinary approach, it became possible to provide high-tech medical care in the form of liver transplantation to patients who were previously doomed to severe disability and inevitable death. The related liver transplantation was performed of 2014, two adult and child related liver transplants were performed. Next, 76 related liver transplants were performed from 2014–2019, regarding various liver pathologies with end-stage liver failure. The age of patients ranged from 3.5 to 55 years. Male patients were 42, female 34. The body weight of the recipients ranged from 9 kg to 68 kg. The main liver diseases that led to the development of terminal liver failure were: Cirrhosis of viral etiology (HBV + HDV, HCV), in the decompensation stage, Hepatoportal sclerosis, Syndrome Alagilya, Byler's disease, Fulminant liver failure of unknown etiology. To determine the optimal time for liver transplantation, the Child-Pugh cirrhosis staging, the urgency grading scale for the UNOS liver transplant, and the estimated mortality rate while in the MELD (Model for End-Stage Liver Disease) waiting list are used. Of the 76 patients, specific complications (thrombosis of the hepatic artery) with a fatal outcome were observed on day 3 in one case. Non-specific complications in 2 (pneumonia) cases. In one patient, the inconsistency of the hepato-choledocho-anastomosis was repeated a month later, with the imposition of a hepato-jejuno-anastomosis according to the method of Roux. In three patients, a biliary fistula was observed which was restored by conservative methods. The anatomical features of the blood supply to the liver affect the possibility of using different parts of the body as a transplant, and should be taken into account in order to eliminate possible complications in donors related to the compromised blood supply to the remaining part of the liver. Despite the rather frequent occurrence of biliary complications, in particular, being the reason for repeated operations in recipients of the right lobe of the liver from a related donor, the initial ideal quality of the graft ensures its good function and the reality of recovery of the recipient with further good quality of life, as evidenced by all our observations.

O15

Direct Results of Kidney Transplantation From a Living Related Donor at the State Institution "Republic Specialized Scientific - Practical Medical Center of Surgery Named After Academician V.Vakhidov" (RSSPMC)

Feruz Nazirov[1], FazlitdinBakhritdinov[1], RavshanIbadov[1], Jasur Sobirov[1], Azamat Suyumov[1], Kodirjon Makhmudov[1], Zohidjon Matkarimov[1], Akrom Akhmedov[1], Zafarbek Abdugofurov[2], Umida Saatova[2], Muzaffar Rustamov[1]

[1]Republic Specialized Scientific and Practical Medical Center named after Academician V.VAKHIDOV, and [2]Tashkent Medical Academy, Tashkent, Uzbekistan

Introduction: Our objective was to evaluate the effectiveness of surgical tactics and to analyze the results of related kidney transplantation in the «RSSPMC named after Academician V.VAKHIDOV".

Methods: The object for the study was 201 patients who underwent the operation of kidney transplantation in for 2017-2019 at RSSPMC n.a. Academician V.VAKHIDOV. In 194 patients, the terminal stage of CRF developed as a result of existing chronic glomerulonephritis (96.5%). Particular attention was paid to the data of MSCT of the kidneys, adrenal glands, MSCT - angiography of the abdominal aorta and its branches with venography of the renal veins and excretory phase. Preference was given to left-sided nephrectomy. Laparoscopic was performed in 4 cases, in 197 patients - open kidney intake. After nephrectomy, perfusion was immediately started with a preservative solution. The time of primary heat ischemia did not exceed 2 minutes. Custodiol solution was used at a temperature of 4-8° C in an amount of 1 liter. The average time of cold ischemia is 10.2 ± 0.8 minutes. The duration of secondary heat ischemia is not more than 31.5 ± 0.7 minutes.Access to the retroperitoneal space was performed on the adrectal line, with the dissection of the "spigelian line". For the formation of an end-to-side arterial anastomosis,end-to-side venous anastomosis was formed with an external iliac vein with a transition to a common one. Before starting the blood flow to the organ - transplant, methylprednisolone (Solu-Medrol) was infused at a dose of 500-1000 mg.Ureteral-vesicular neo-ureterocystanastomosis was formed according to the method of Lich with the use of the ureteral stent «seahorse» of 5-6F. Basiliximab (Simulect) was used for immunosuppression until the patient was transferred to the operating room;anti-thymocytic immunoglobulin was usedin rare cases.

Results: 78% of donors and recipients had ABO group identity. In 43 cases, transplants were performed according to the principle of group compatibility to recipient donors. There were 2 donors and recipients with different Rhesus. In all pairs HLA-compatibility was observed in at least two haplotypes. From the postoperative complications it should be noted cardiac arrhythmias, bilateral pneumonia in 1 patient. In the early postoperative period, there were 2 deaths (0.99%) caused by acute cardiovascular pathology. In 98,1% of patients in the early postoperative period, the CRF clinic has disappeared. The plasma creatinine level on average returned to normal by 4.3 + 0.8 days. One month after transplantation, this index was 90 + 0.02 μmol/l, the level of glomerular filtration 5 days after transplantation was 97.1 + 3 ml/min.

Conclusion: The quick functioning of the transplanted kidney and rare crises of rejection in a related transplant certainly give reason to consider the transplantation from a living related donor to be the most optimal. This is due not only to a greater degree of immunological compatibility of the donor and recipient and largely determined by the reduction of the time of Cold ischemia

and secondary thermal ischemia, respectively, a decrease in the severity of reperfusion injuries.

O16

Actuality of Related Kidney Transplantation in the Republic of Uzbekistan

Nazirov Feruz[1], Bakhritdinov Fazlitdin[1], Ibadov Ravshan[1], Sobirov Jasur[1], Suyumov Azamat[1], Makhmudov Kodirjon[1], Matkarimov Zohidjon[1], Akhmedov Akrom[2], Abdugofurov Zafarbek[3], Saatova Umida[3], Rustamov Muzaffar[1]

[1]Republican Specialized Scientific and Practical Medical Center of Surgery n.a. V.Vokhidov; [2]Akhmedov; [3]Tashkent Medical Academy, Tashkent, Uzbekistan

Introduction: Studying of the relevance of kidney transplantation from a living related donor in Uzbekistan.

Methods: For the period from 2010 - 2017 in the department of angisurgery and kidney transplantation of "RSSPMCS n.a. V.Vokhidov", 51 kidney transplants from living related donor were performed. This contributed the development of the Law on Transplantation of Organs and Tissues in the Republic of Uzbekistan. A Resolution of the Cabinet of Ministers of the Republic of Uzbekistan "On approval of a temporary provision on the procedure of related transplantation of the kidney and (or) liver lobe" dated October 23, 2017 was issued. After the law in our center 150 kidney transplants from a living related donor were completed.

Results: Studying of the morbidity structure in the republic, according to the statistical materials of Ministry of Health of the Republic of Uzbekistan for 2016, showed that 148585 people in our country suffer from glomerular, tubulointerstitial kidney diseases and other kidney diseases. In this case, adults over 18 years old make up 77% of them. Significantly fewer children - 15.7% and adolescents - 7.3%. In the regions of country proportion of suffering from glomerular, tubulointerstitial kidney diseases and other kidney and urination diseases are equally related to the same age groups of the population, When analyzing data per 100 thousand population in 2016, an average 470.6 patients with glomerular, tubulointerstitial kidney diseases and other diseases of the kidneys and ureter were detected. The donor was selected according to the standard protocol. For the period from 2010 to 2019, we examined 589 people for possible kidney donation. 208 (35.1%) of them was excluded due to various reasons that meet the criteria for excluding a potential kidney donor. 381 (64.6%) people were suitable for potential kidney donors, of which 201 (29.2%) became a kidney donor. Most of the donors were brothers and mothers, 51 brothers (25.3%) and 49 mothers (24.3%), 42 sisters (20.8%), and 37 fathers (18.4%). In 11.2% of cases, other relatives (daughter, son, uncle, aunt, etc.) acted as donors. This is closely connected with Uzbek mentality, so that most families plans to have more than 2-3 children.

Conclusion: For 2016, 11,854 people suffered from CRF in the republic, which counts 37.5 patients per 100 thousand population. An favorable option for related kidney transplantation is large families in Uzbekistan, mentality, close relations in the family, which allows to choose the most optimal kidney donor. It should be noted that out of 381 people suitable for donation, 156 (40.9%) acted as donors and 225 (59%) potential donors remained as the reserve donors. Some excluded people from the number of donors (208 people) may also be included in the reserve donors, since 103 of them were categorically excluded, due to the existing pathologies and contraindications. Another part in the future may act as donors, since the reason for their unsuitability for donation was group incompatibility with the ABO system, DNA incompatibility, and other individual features.

O17

Fluorescence Guided Laparoscopic Surgery for a Massive Perirenal Lymphocele: A New Application in Transplant Surgery

Giuseppe Letto, Valentina Lori, Cristiano Parise, Elia Zani, Gabriele Soldini, Sara Marzorati, Giulio Carcano

University of Insubria, Ospedale di Circolo e Fondazione Macchi, Varese, Italy

Introduction: Indocyanine green (ICG) fluorescence imaging system is a consolidated complementary technique in several surgical fields. Peri renal lymphocele development is a common complication, following kidney transplantation that could affect the graft function; among all possible treatments videolaparoscopic marsupialisation is actually the best therapeutic option, with a 12% of overall conversion rate to open surgery with a major risk of damaging the urinary tract. The goal of the present study was to demonstrate that intraoperative ICG fluorescent imaging might be a safe technique that can be used in order to laparoscopically identify the exact location of the lymphocele thus reducing intraoperative risks.

Methods: Following a progressive worsening of renal function, likely related to a radiologically identified lymphatic collection, the patient underwent the placement of a percutaneous drainage, in order to reduce the parenchymal compression. Two weeks after the procedure a laparoscopic marsupialisation attempt was performed after the injection of fifty milligrams of ICG diluted in 20 mL of saline solution through the drain tube.

Results: The laparoscopic exploration of the abdominal cavity with the dedicated camera showed 3 raised fluorescent areas corresponding to the inner side of the known lymphocele. The lymphocele wall was then laparoscopically dissected and 300 mL of serous fluid were drained. A 5 cm peritoneal window was then made in the cyst wall using the Ultracision harmonic scalpel (Ethicon US), and an omental pedicle was interfered in the lymphocele cavity fixed with a riabsorbable runnig suture. No sign of recurrence have been detected after one year from surgical procedure

Conclusion: Laparoscopic surgery remains the best surgical option for the treatment of primary symptomatic lymphocele after kidney transplantation. Intraoperative ICG fluorescent imaging seems to be a safe and useful technique in order to correctly locate and define the extension of the lymphocele, reducing the risks of surgery related lesions of urinary structures.

O18

Comparison of Performing of Ureterovesical Anastomosis with and without Double-J Stent in Kidney Transplant Patients: Early Review

Farhod Khadjibaev, Maksud Rashidov, Dilshod Ergashev, Pulat Sultanov, Nodir Sultanov

RRCEM, Tashkent, Uzbekistan

Introduction: Ureteral stenosis is one of the most common urologic complications and h as been reported in 2.6%-15% of kidney transplantations, representing an important cause of organ loss. In this study, we compared the performing of vesicoureteral anastomosis with and without JJ stents.

Methods: All patients who underwent kidney transplant at our center from April 2018 to May 2019 were investigated into two groups for occurrence of ureterovesical implantation stenosis. First group patients ureterovesical anastomosis performed by using a JJ ureteral stent and the second group patients without JJ stent. In the first group 15 to 40 days after the kidney transplantation, JJ was removed by IV sedation and local anesthesia and rigid cystoscopy. In the second group we performed US of transplanted kidney periodically to determine early hydronephrosis and daily measurement of urine volume. All patients initially received a standard triple immunosuppressive protocol, consisting of tacrolimus, mycophenolate mofetil and prednisone.

Results: or investigated period, 43 kidney transplantation was performed in our center. For 32 patients (74.4%) ureterovesical implantation performed with JJ stents, and others 11 (25.6%) without. 27 (62.8%) patients were male, and mean age of patients was 32.25. There was no significant difference between groups regarding demographic features. In the first group there were no post-operative ureteric complications after removing JJ stents. But in the second group 1(9.1%) patient had hydronephrosis (after 3 month), reduction of daily urine volume and elevated creatinine level, who managed by placing percutaneous drain and urine leaks occurred in 1(9.1%) patient (10 days), due to the patient lost the graft.

Conclusion: Placing JJ catheter in kidney transplant reduces the incidence of urological complications such as anastomotic stenosis and/or fistula. Our study shows that, using JJ stent is safe regarding the early surgical complications such as stenosis of vesicoureteral anastomosis.

O19

Features of the Use of Parenteral Nutrition in Patients with Acute Renal Failure, Chronic Renal Failure and Renal Transplant Nephropathy

U. K. Yuldashev, T.A. Salakhov,
B.B. Nurmukhamedov, A.T. Buriev

Republican Scientific-Practice Medical Center of Nephrology, Kidney Transplantation Ministry of Health of Uzbekistan

Parenteral nutrition is a method of introducing nutrients into the body by intravenous infusion bypassing the gastrointestinal tract. It can be partial and complete. Depending on the condition of the patient, different administration schemes and doses of nutrients are used, which is reflected in the recommendations of the European Association of Clinical Nutrition and Metabolism (ESPEN) - Guidelines on Parenteral Nutrition: Adult Renal Failure.

Amino acids - are the main components of the protein, i.e. building material of a living organism. To perform all functions, 22 amino acids are needed, of which 8 are essential AAs and must be absorbed from the outside. Replaceable AAs can be produced by the body itself. Conditionally irreplaceable AAs: Histidine, Arginine, Cysteine, Glutamine, Alanine, Glycine, Tyrosine. With renal failure, the synthesis of Arginine, Histidine, Tyrosine and Serine decreases sharply. Tyrosine can be synthesized from phenylalanine.

The diagnosis of PED (protein-energy deficiency) is made in the presence of three signs: Low level of albumin, prealbumin (transthyretin, normal = 150-400 mg/l) or cholesterol, Decrease in body weight, Decrease in muscle mass.

PED - protein-energy deficiency, causes: Reduced oral ingestion; Restricted diet Uremic intoxication, anorexia; MIA syndrome (malnutrition - inflammation - atherosclerosis syndrome); The dialysis procedure enhances catabolism. On the days of hemodialysis, the nitrogen balance becomes negative due to the loss of free amino acids and peptides with dialysate - 8-12 g and 1-3 g per procedure, respectively. Additionally, increases and decreases protein breakdown of synthesis. This total negative nitrogen balance leads to a high frequency of loss of lean body mass of patients receiving HD for a long time.

PED is an independent factor determining the frequency of complications and mortality in patients receiving HD. Annual mortality in such patients is 30%.

Of protein - 1.1-1.4 g/kg/day , of which > 50% HVP (high value proteins). This means that the amount of nitrogen entering the body must exactly match the amount excreted in the urine and feces.

Therefore, for the treatment of PED, it is necessary to prescribe only specialized AK solutions that are adapted to metabolism in case of renal impairment. Such a solution is Akumin Nefro 7%. Which is the "gold standard" in treating kidney patients; recommended and adopted by the European Society for Clinical Nutrition and Metabolism (ESPEN, 2009). Effective in the prevention and treatment of PED, which often develops with PN and HD due to increased catabolism. Helps reduce kidney and systemic hypertension. The only specialized AK solution approved for use in patients with acute renal failure, chronic renal failure, and during DG. A unique solution with a high AK content is 70 g/l, of which 60% is HVP, 31% is highly proteinogenic AA (HPAA). This contributes to the rapid replenishment of protein deficiency in tissues and muscles, while preventing the formation of nitrogenous toxins.

Table 1: Nutrient requirement for renal failure

Renal failure options	Protein, g/kg per day	Energy, kcal/kg per day
Acute renal failure (anuria)	0	20-25
Acute renal failure (oliguria)	0.3-0.4	25-30
CKD-1	0.8	30
CKD-2	0.6	35
CKD-3	0.4	40
Hemodialysis	1.2-1.5	30-40

Experts ESPEN , NKF and EDTA suggest that these patients should receive a greater amount

O20

Long Term Outcomes of Renal Transplantation in Pediatric Patients: Baskent University Experience

Esra Baskın[1], Kaan Gülleroğlu[1], Nihal Uslu[2], Ebru H. Ayvazoğlu Soy[3], Gökhan Moray[3], Mehmet Haberal[3]

Departments of [1]Pediatric Nephrology, [2]Radiology and [3]Transplantation, Baskent University, Ankara, Turkey

Introduction: Renal transplantation is the best option for treatment of children with end-stage renal disease and it provides a long-term survival. Pediatric kidney transplantation results have improved significantly over the years. However the chronic immunosuppression exposes children to multiple complications and side effects. Long term outcome results are scarce. We aimed to analyze retrospectively long term outcomes and characteristics of 184 pediatric renal transplant recipients at our center.

Methods: Retrospective chart review was performed for pediatric patients who underwent kidney transplantation from 1999 to 2019. One hundred eighty four renal transplants (82 girls, 102 boys) were included in the study. All patients received prednisolon, CNI and MMF as immunosuppressive treatments. Induction treatment (IL-2 res blockers) was used in recipients who had high risks and deceased donor. Graft and patient survival, immunosuppressive medications, HLA matching, acute rejection, graft loss, donor specific antibody, infections, growth status, obesity, diabetes mellitus hypertension frequency were evaluated.

Results: Mean age of the patients was 13.8+/- 6.7 (range:1.5-21 years). The follow-up period ranged from 6 to 190 months (mean, 59.1 +/- 38.8 months). Distribution of donor type of patients were 'living related' in 77% (141 patients) and deceased donor in 23% (43 patients). Twenty four (7.6%) recipients' weighting was <15 kg. Acute rejection rate was 34%, 36 % of them were acute T cell mediated rejection. Early surgical complication were seen for 8% of the patients, infection rate was 28%. The most frequent infections were CMV and BK virus and urinary tract infections. Graft loss were seen in 20 patients(10.8%). Five recipients died (mortality 2.71%), three of whom had a functioning graft. Three patients (1.63%) underwent retransplantation at 5, 3 and 2 years after the initial operation. The 1, 3, 5, 10 and 15-year graft survival rates were 99%, 96%, 92%, 86 %, 76% and the corresponding patient survival rates were 100%, 99%, 98%, 95%, 95% respectively. Six patients (3.3%) had new onset diabetes mellitus. Hypertension and obesity rates were 29%, 14% respectively. Seven patients had severe growth failure and three of them received growth hormone treatment.

Conclusion: Our results indicate, kidney transplantation in pediatric patients is succesfull and long term outcomes have improved significantly over the years. Our current objective should be achievement of optimal patient and graft survival rates with low rate of complications.

O21

Lower Urinary Tract Dysfunction and Pediatric Renal Transplantation

Kaan Gülleroğlu[1], Esra Baskın[1], Mahir Kırnap[2], Nihal Uslu[3], Gökhan Moray[2], Mehmet Haberal[2]

Departments of [1]Pediatric Nephrology, [2]Transplantation, and [3]Radiology, Baskent University , Ankara, Turkey

Introduction: Lower urinary tract abnormalities are recently considered to be a contraindication for renal transplantation. Advancements in diagnosis and treatment in this area allow renal transplantation as a treatment choice in selected cases. We evaluated clinical outcomes of pediatric renal transplant patients with lower urinary tract dysfunction.

Methods: We retrospectively evaluated the data files from 165 (F/M: 73/92) pediatric renal transplant patients. Patients with and without lower urinary tract dysfunction were divided into 2 groups. Demographics of the patients, etiology of chronic renal failure, acute rejection episodes and graft loss were recorded.

Results: Seventeen patients had lower urinary tract dysfunction and the remaining 148 patients had a functional lower urinary tract. In lower urinary tract dysfunction group, 7 patients had post urethral valve, 8 patients had neurogenic bladder due to different etiologies, 1 patient has non-neurogenic neurogenic bladder and 1 patient has vesical hypoplasia. Patients with lower urinary tract dysfunction were younger than other patients (3.73±2.42 years vs. 7.84±5.19 years, p=0.002) at the diagnosis time of chronic renal failure. Mean follow-up time after renal transplant (58.00±24.88 months vs. 78.29±52.73 months p=0.136) and GFR values at 5th year of follow-up (53.85±37.36 ml/min vs. 63.40±32.57 ml/min, p=0,492) of two groups were similar. Urinary tract infections rate was significantly higher in lower urinary tract dysfunction group (2.47±1.57 vs. 1.20±0.37, p=0,044) There was any significant difference for donor type, immunosuppressive treatment and acute rejection episodes between two groups. 8 patients (4.84%) were lost their graft during 5 years follow-up. 1 of these patients was in lower urinary tract dysfunction group. Graft loss rate was of two groups were similar (p>0.05).

Conclusion: We demonstrated that pediatric patients with lower urinary tract dysfunction has similar graft outcome with other pediatric renal transplant patients. Careful evaluation and preparation of lower urinary tract are important factors for the success of the renal transplantation.

O22

The First Successful Kidney Transplantation to a Child with the Abnormality of the Urinary Tract in Uzbekistan: A Case Report

Farhod Khadjibaev, Visolat Sharipova, Pulat Sultanov, Khikmat Anvarov, Dilshod Ergashev, Malika Ruzibakieva
RRCEM, Tashkent, Uzbekistan

Introduction: Kidney transplantation have become a common surgical treatment for the patients with the end stage of chronic kidney disease (CKD). CKD in children is a major health problem in the world with increasing incidence and prevalence. Kidney transplant surgery run in Uzbekistan since 2017 after long time pause. This case report presents a peculiarities of the first successful kidney transplantation to a child in Uzbekistan.

Case Report: 14 years old boy with end stage of CKD revealed at age of 4 after long term fever. An abnormal development of the urinary tract, insufficiency of the vesicoureteral segment and ureterohydronephrosis on both sides was determined in 2009 and patient underwent a vesicoureteral segment plastic surgery. In post-op period patient had a pain on both lumbar region accompanying with fever. Several courses of antibiotic and anti-inflammatory therapy was administered every 6 month. In June 2017 was occurred arterial hypertension, vomiting and fever. The daily diuresis decreased to 50 ml. End stage CKD was diagnosed and patient was admitted to program dialysis during 8 months. In March 2018 it was decided to transplant a kidney from his father as a living donor. HLA compatibility showed HLA-A, B and DR – 4 matches. The cystogram revealed recurrence of insufficiency of the vesicoureteral segment on both sides. Although there was a slightly mismatched proportion between the donated kidney and recipient's constitution (the weight of a boy – 35 kg and grows – 150 sm), the graft was transplanted on the left-side with termino-lateral common iliac arterial anastomosis and termino-lateral external iliac vein anastomosis. Uretero-vesical anastomosis was applied as per standard Lich-Gregoire procedure. Immediate graft function was observed during the surgery. The first post-op day diuresis was 7300 ml which became 3100 ml on a 7th day. Creatinine level decreased from 0.53 mmol/l to 0.043 mmol/l on the 9 post-op day. We mentioned a moderated proteinuria 0.132 g/l on the 4th and 0.264 g/l on the 6th post-op day. Decreasing the proteinuria to 0.033 g/l was observed on the 9th day only. The ultrasound and doppler imaging showed the normal graft size and echogenicity, adequate flow in the renal and iliac vessels. Patient was discharged on the 10th post-op day in a good condition.

Conclusion: Kidney transplantations to children have become common surgical procedures that are associated with high success rates. Early determination, accurate diagnosis and timely management of abnormal development of the urinary tract can reduce the rate of end stage CKD in a children.

O23

Peculiarities of Clinical Course of Chronic Viral Hepatitis C in the Background of Terminal Chronic Removal Insufficiency

Firuza Aripkhodjayeva[1], Rustam Akalayev[2], Maksud Madaminov[1], Saodat Rashidova[1], Anvar Abdullayev[1], Nodira Rakhimova[3]
[1]Scientific Research Institute of Epidemiology, Microbiology and Infectious Diseases; [2]Republican Scientific Center for Emergency Medical Aid; [3]Republican Specialized Scientific - Practical Medical Center for Nephrology and Kidney Transplantation, Tashkent, Uzbekistan

Introduction: The number of branches of medicine at high risk of spreading viral hepatitis includes chronic hemodialysis units, where frequent surgical interventions on the vessels, continuous medical process, and frequent transfusions of blood transfusion cause a high risk of viral hepatitis infection [S. Milovanova S.Yu. et al., 2009; Yarosh L.V. et al., 2013]. The severe nature of the pathology in patients with chronic renal insufficiency, with the aggravating effect of various intercurrent infections on the course of the underlying disease with worsening treatment projections underscores the importance of this problem today. Our purpose was to study the clinical course of chronic viral hepatitis C in patients with end-stage chronic renal failure.

Methods: We examined 395 patients on program hemodialysis from 3 to 15 years. The age of patients ranged from 17 to 65 years. Among the patients examined, 132 (33.4%) were women and 263 (66.6%) men. The diagnosis of chronic viral hepatitis C was made on the basis of anamnesis, clinical laboratory data, and anti-HCV IgG detection in the blood (ELISA). RNA-HCV genotypes and viral load were determined by the polymerase chain reaction method.

Results: The development of end-stage CRF in 244 (61.7%) patients was formed on the background of chronic glomerulonephritis, 64 (16.2%) on the background of chronic pyelonephritis. Analysis of the clinical course of chronic hepatitis C in patients with chronic renal failure has shown that in patients with chronic hepatitis C on the background of chronic renal failure, symptoms of intoxication are recorded significantly ($p<0.05$) compared with patients with chronic renal failure without associated diseases. We also found a significantly ($p<0.05$) high incidence of anemia, polyserositis in the form of ascites, pericarditis, hydrothorax in this group of patients. For patients with chronic kidney disease without concomitant diseases, a transient edematous syndrome was characteristic, which, after adequate dialysis, was well corrected, whereas in 8 (25%) patients with CVHC and chronic renal failure, persistent edema was observed that was not corrected by dialysis, which is obviously due to a violation of the protein-synthetic function of the liver this contingent.

Analysis of the course of CVHC on the background of CRF showed that in 11 (34%) patients of the main group the disease proceeds in the form of a transient form of chronic renal-hepatic insufficiency with the development of adverse outcomes. In 13 (40%) patients of the same group against the background of hemorrhagic syndrome develops progressive anemia, against the background of which in 8 (25%) patients develop persistent polyserosis in the form of hydrothorax, ascites and pericarditis, which reflected the aggravating effect of CVHC on the course of chronic renal failure.

Conclusions: CVHC has an aggravating effect on the course of the underlying disease with the development of adverse outcomes. The revealed circumstance dictates the need for therapeutic measures, including modern antiviral drugs in order to reduce the incidence and prevent various complications of CVHC in patients with chronic renal failure while in hemodialysis units.

O24

Investigation of the Relationship between HLA BK Virus

Miray Kavuzlu[1], Bilkay Baştürk[1], Belgin Ataç[2], Hikmet Eda Alışkan[3], Bircan Kantaroğlu[1], Mehmet Haberal[4]

Departments of [1]Immunology, [3]Medical Microbiology, Başkent University, Adana; [2]Medical Biology and [4]Transplantation, Başkent University, Ankara, Turkey

Introduction: The best treatment modality in patients with end-stage renal disease (ESRD) is renal transplantation. The main function of the human leukocyte antigen, located on the short arm of the sixth chromosome, is to present antigens to T lymphocytes and initiate the specific immune response. It is also known that HLA plays a role in the development of an immune response to viral infections. BK virus (BKV) infection is one of the major problems after kidney transplantation. Immunosuppressive therapies after transplantation cause opportunistic infections such as BKV. The aim of the study was to investigate whether there is a relationship between HLA and BKV in patients with renal transplantation.

Methods: The study was planned retrospectively and HLA A, B, and DR tissue typing were studied before transplantation in the study group. Tissue typing tests were performed by Sequence-Specific Oligonucleotides (SSO) and / or Sequence-Specific Priming (SSP) method based on PCR. After transplantation, patients were tested for BKV. DNA was isolated from urine and / or plasma samples of patients. Isolated samples were quantitatively evulated for BKV by the Real-time PCR method.

This study was approved by Baskent University Institutional Review Board (Project no: KA18 /296) and supported by Baskent University Research Fund.

Results: were analyzed statistically with SPSS program. According to the analysis, it was determined that HLA B*13 allele was protective (p: 0,049) against BKV and HLA DRB1*03 allele could be risk factor (p: 0,029) against BKV. No significant relationship was found between the other HLA alleles analyzed and BKV. We didn't find any correlation with gender, age, donor (cadaveric or living) and BKV.

Conclusion: HLA class I molecules are known to be effective against viruses with the help of cytotoxic T cells. Studies show that CD8+ T cell mediated antiviral response tosome of the class-I HLA epitopes arerelevant with respect to the resolution of viral infection. In our study, HLA B*13 alleles within the HLA class I molecules were identified as protective factors against BKV. HLA class II is associated with CD4+ T cells that help secrete the cytokines of the immune system and plays a role in stimulating and suppressing the immune system. Some of the HLA class-I and II allels including HLA DRB1*03 are recognized largr T antigen derivated peptides. We demonstrated that HLA DRB1*03 allele could be a risk factor against BKV. This allele may be considered to be associated with a cytokine secretion of the immune system.

O25

Willingness to Donate and Gender

Bilkay Baştürk[1], Bircan Kantaroğlu[1], Miray Kavuzlu[1], Aytül Noyan[2], Dilek Torun[2], Mutlu Kasar[1], Mehmet Haberal[3]

Departments of [1]Immunology, [2]Nephrology, Başkent University, Adana; and [3]Transplantation, Başkent University, Ankara, Turkey

Introduction: Donation is actually influenced by educational, religious, cultural and ethical factors. It is known that positive attitudes towards organ donation are significantly influenced by educational status. Women seem to be more willing to donate with greater sense of responsibility than men. The aim of the study was to investigate donor relations and gender amongst the patients.

Methods: For this purpose, we investigated 3676 potential donors and 910 patients for hematopoietic stem cell transplantation (Table 1) and 722 potential donors and 1496 patients for renal transplantation (Table: 2) who applied Baskent University Adana Dr Turgut Noyan Research and Medical Center Transplantation and Tissue Typing Laboratory (between 2010 and 2019) for tissue typing and/or cross-match tests.

Statistical analysis was performed using the statistical package SPSS v 17.0. Data was summarized according to the frequency of distribution.

Results: The categorical variables between the groups was analyzed by using the Chi square test or Fisher Exact test. Values of $p<0.05$ were considered statistically significant. Our study results show that female donor candidates are more frequent in HSCT and renal transplantation.

Conclusions: In Turkey, organ donation and transplantation activities are coordinated by the law of the Turkish Ministry of Health. Studies show that the use of female donor organs in renal transplantation are a risk factor for rejection. In our study group, females seemed to be more willing to donate organs and tissue compared to males. When it comes to children, men were more willing to be a donor. In genetically related living donations, decisions are always made within the family system. Gender imbalances have been reported in Italy, Norway, Switzerland, United States, Canada, Thailand, Hong Kong, and India. These results need to be investigated to understand why living donors were more likely to be women than men.

Table 1: candidates for hematopoietic stem cell transplantation

HSCT patients and candidate donors (n: 4586)	Donor (n:3676)	Patients (n:910)
Female	1750	544
Male	1926	366

Table 2: Patients and donors for renal transplantation

Renal TX patients and donors (n: 285)	Donor (n:285)	Patients (n:285)
Female	110+37 (deceased)	99
Male	80+58 (deceased)	186

Table 3: Adult and pediatric renal transplant patients and their donors

	Patients (male)	Patients (female)	Donor (male)	Donor (female)
Adult (n:211/74%)	n:141/66,8%	n:70/33,1%	n:98/46,0%	n:113 /53,5%
Child (n:74/26%)	n:45 /60,8%	n:29 /39,2%	n:40 /54,0%	n:34 /45,95%
Total (n:285/100%)	n:186 /65,26%	n:99/34,74%	n:138 /48,4%	n:147/ 51,58%

O26

Brain Death Donor Determination and Management In Mongolia

Battsetseg Gonchigjav, Dashdondov Naranbaatar, Tungalag Palam, Altangulga Bayaraa, Batchuluun Pandaan

Regulatory Department of Organs, tissues, cells transplantation, Center for Health Development, MOH, Mongolia

Introduction: The "Donor Law" of Mongolia was approved in 2000 and revised in 2012 and the last revision done on 19 January 2018. As result of the last revision Organ donor consent form or OPTIN system approved. This led to the establishment of Regulatory department of organs, tissues, cells transplantation on 1 March 2018. The Regulatory department's aims are to regulate current transplantation programs, to increase the capability and capacity within the health care system to increase cadaver donation rates, raise public awareness about organ donation and tissue donation. Organ transplantation program started in 1996 and re-trained local doctors. Since 2006, total 179 Kidney transplantation and 86 liver transplantation procedures successfully performed at first central hospital and national cancer center. However, due to high number of patients on the waiting list and increasing demand for kidney and liver transplantation in addition to ongoing limited organ availability has shown to increase usage of organs from cadaver donations. Since 2008, brain death donation have activities started and total 9 cadaver donation or 16 kidney and 3 liver transplantation performed.

Methods: Currently 3 main state hospitals re-established their Brain death donor detection committee and started training doctors in abroad. The regulatory department officers collaborate with Intensive care unit doctors for implementing brain death protocol. Between November 2018 to May 2019, coordinator called to hospitals 600 times to get reports. The total number of potential donors in brain death in brain death reported to the Regulatory department was 50. Families were approached in 13 of these 13 cases and 5 consents obtained. As result 4 kidneys and 2 livers transplanted from 3 deceased donors.

Results: Since November 2018, Regulatory department organized several trainings on brain death and management of the potential brain death donor for ICU doctors and all members of committees. From the initial results indicates that by implementing good organizational coordination, proper training and good communication collaboration between the Regulatory department and well trained ICU, ED doctors in the authorized hospitals will increase organ donation and transplantation from deceased donors.

Conclusion: 1) To continue the proper training of maintenance of the potential brain death donor in the ICUs and some admission modification in the EDs. 2) To provide some medical diagnostic devices and well trained specialists should be improve brain donor pool. 3) To increase nursing staff in the ICU of those main state hospitals.

O27

Donor Safety, Risks and Complications in Solid Organ Transplantation

Nur Altınörs[1], Mehmet Haberal[2]

Departments of [1]Neurosurgery, and [2]Transplantation, Başkent University, Ankara, Turkey

Solid organ transplantation is the current mode of definite therapy for end-stage liver and kidney disease. The source is human donation either from living or deceased. Although efforts are concentrated to promote cadaveric donation living donor is also progressing.

Adult living donor for liver transplantation has advantages such as optimization of the timing of transplantation, better organ quality and decreased recipient mortality. Careful donor selection and thorough preoperative evaluation is mandatory to reduce donor health risks and surgical complications. Younger donors are preferred for living liver transplantation since they result in better recipient outcomes.. Magnetic resonance imaging is beneficial for preoperative living donor evaluation because of its ability to demonstrate steatosis. Therefore liver biopsy may not be needed. Laparoscopic living donor hepatectomy is another useful surgical technique to diminish complications. A meta-analysis including articles dealing with morbidity and mortality in LDLT and to identify the proposed management and strategies for preventing mortality and morbidity revealed morbidity ranging from 10% to 78.3% depending on the studies. Twenty-three papers reported donor deaths. The major cause of death was sepsis (30%). Donor preconditioning techniques (absorbable portal embolization, portal stenosis) and the use of the left liver associated with portal flow modulation in the donor portal vein flow modulation was suggested as an approach for development of LDLT. Right liver donation and overweight were found to be closely associated with donor morbidity. Amount of liver tissue removed and biliary complications are others factors causing donor morbidity. The postoperative results and quality of life are generally very good for living kidney donors. A study showed that nearly 16 % of all living kidney donors developed chronic renal disease at three years follow-up. Patients with previous history of hypertension and low glomerular filtration rate at one year follow-up were considered to be at risk. Excess weight and smoking are risk factors for living kidney donors. Advanced age is a matter of controversy. Some authors propose that with careful selection older age harbors no additional risks. There are a very limited number of living lung donors. This is an another subject of concern. The gap between supply and demand is a universal problem and donor risks will foster research and clinical studies for new therapeutic modalities. These may include cell transplantation for the treatment of chronic liver disease, artificial liver support system, bioartificial liver , bio-reactors filled with functioning liver cells and extracorporeal devices.

O28

The Analysis of Non-Recovered and Unused Deceased Organs in KSA 2013-2018

Mohammed Al Ghonaim, Iyad Alyousef, Besher Al Attar, Dan Aldrin Santiago

[1]Saudi Center for Organ Transplantation, Riyadh, Saudi Arabia

Introduction: The proportion of deceased organ recovered for transplant steadily increases over the years but as well as the organs discarded. The Saudi Center for Organ Transplantation (SCOT) has a good experience with renal transplantation, thus the rate of discarded kidneys remains minimal. But for other organs such as the liver, heart, lungs the rate of non-recovery gradually increases.

This study is to evaluate the rate and causes of non-recovered and discarded organ from deceased donors in the Kingdom

Methods: A retrospective study of the non-recovered and discarded deceased organs over a 6 year period 2013-2018. This study is an analysis of the SCOT data including the annual reports, donor and recipient registry and the dynamics of Deceased Brain Death cases study and follow-up post transplantation.

Results: Over the 6-year period (2013-2018), a total of 3616 possible deceased donors were reported to SCOT. 2,169 (60%) has been converted to potential donors after being documented as dead by neurological criteria. 1800 (83%) were converted to eligible donors after their families were approached for organ donation, wherein 557 (31%) had given their consents for organ donation and of these, 539 (96.8%) consented donors were recovered. In total, there were 1,675 (70.6%) solid organs and 697 (29.4%) tissues recovered. Of the recovered organs, 787 kidneys were transplanted, 56 kidneys (6.6%) were discarded with reasons mainly due to CKD (26%), glumerulosclerosis (25%), urological and anatomical abnormalities (21%) renal injury (9%), infection (9%) and malignancy (3%), while the non-recovered kidneys were (16%) from the total consented cases. 460 livers were recovered, wherein, 396 (86%) were transplanted, 64 (14%) were discarded mainly due to steatosis and 15% were not recovered. 260 lungs were recovered and transplanted, the rate of non-recovered lungs were 49% with the main reasons of 30% were due to infection, 22% traumatic causes, 17% diseased lungs and 7% poor lung function. 288 hearts were recovered of which, 113 (39%) were transplanted and 175 were recovered as source of heart for valves. Non-recovered hearts was 46% with the main reason is due to age with bad ejection fraction. For the pancreas only 53 pancreases were recovered and transplanted on the past 6 years.

Conclusion: The majority of the (liver, lungs and heart) discarded and non-recovered rate has risen and can be attribute to the broadening deceased donor pool and 80% of the cases, it can be explained due to aging age group and severe changes in biopsy. For kidneys the median donors age rose from 26 to 46 years old with CVA at 63% as the main cause of death. For kidney there were no increased in the discard rate which is fixed at 7% for the past 6 years.

The strategy to minimize the incidence of discarded and non-recovered organs is to promote an early detection of abnormalities before or during allocation and improving the allocation process itself. This will help the SCOT as well as the transplant centers in organ allocation and organ acceptance respectively. It may help reversing the trend of discarded organs for kidneys and for non-recovered organs such as the liver, heart, and lungs and recently the pancreas and small bowel.

O29

Deceased Organ Allocation and Procurement of High Risk Organs in KSA (2013-2018)

Mohammed Alghonaim, Iyad Alyousef, Besher Al Attar, Dan Aldrin Santiago, Michael Abeleda

Saudi Center for Organ Transplantation, Riyadh, Saudi Arabia

Introduction: The organ donation is a need due to the huge gap between supply and demand. Proper identification and management of organs and determining prior conditions and/or pathology before and during organ allocation will help better assessment and judgment of the organs, thus improving the allocation process, organ acceptance and utilization by transplant centers. Our objective was to evaluate the role of detection and allocation of high risk organs to improve the donation and utilization program in general.

Methods: This retrospective study over a 6-year period from 2013-2018 of all consented brain death cases. Analysis of annual reports and collected SCOT data and also our dynamic cases study.

Results: Over the 6-year period (2013-2018), a total of 3616 possible deceased donors were reported to SCOT. 2,169 (60%) has been converted to potential donors. 1800 (83%) become eligible donors after family approached, 557 (31%) had been consented for organ donation and 539 (96.8%) consented donors were recovered. A total of 1,675 (70.6%) solid organs and 697 (29.4%) tissues were recovered. Organs recovered were, 787 transplanted kidneys, 56 kidneys (6.6%) were discarded mainly due to CKD and vascular diseases. 460 livers were recovered, wherein, 396 (86%) transplanted, 64 (14%) were discarded, 260 lungs were transplanted, with non-recovered lungs of 49%. 288 hearts were recovered of which, 113 (39%) transplanted and 175 recovered as source of heart for valves, and 53 pancreases were transplanted over the past 6 years. Deceased organ distribution and allocation is based on recipient priority criteria and zonal distribution system, following the Guidelines in the Directory of Regulations of Organ Transplantation. High-risk or marginal organs, such as 128 (18%) kidneys from extended criteria donors with the median age of 46 years and died due to CVA (63%) over the last 6 years, to prevent the delay of acceptance of these marginalized kidneys and improve its utilization, these kidneys were allocated to 5 transplant centers, 3 in central region, 1 in eastern and 1 in western which used to accept and transplant a marginal kidneys.

Conclusion: Improving the deceased allocation and procurement of high risk organ requires a multifactorial approach which involves the cooperation between the doctors and surgeon in managing the high risk deceased donors. Improving the sharing of information on HLA cross-matching of the donors to all transplant centers. Giving recognition to these transplant centers and encouraging the ICU staff regarding the best practice of donor management and maintenance. Predicting organ pathology by providing medical imagery, such as ultrasounds, CT scans, bronchoscopy and heart echocardiograms prior organ allocation thus, improving organ allocation. Reconditioning and maintaining the marginal donors and organs and drafting a new regulation leads to more successful transplantation and less discarded organs.

P1

The Number of Patients Diagnosed with Brain Death and Organ Donation Rates in Başkent University Konya Hospital: 6 Year Experience

Erdal Karagülle[1], Emin Türk[1], Erkan Yıldırım[2], Hakan Erdoğan[3], Fatma Karakoç[4], Mahir Kırnap[5], Mehmet Haberal[5]

Departments of [1]General Surgery Division of Transplantation, [2]Radiology, [3]Nephrology, [4]Anesthesiology, Baskent University, Konya; and [5]General Surgery Division of Transplantation, Ankara, Turkey

Introduction: Kidney transplantation started at Başkent University Konya Hospital in July 2016. In this study we compared the causes of brain death and organ donation rates in our center between 2013 and 2016 vs 2016 and 2019.

Methods: Patient files and records were analyzed retrospectively. Age, gender, brain death etiology and organ donation rates of patients diagnosed with brain death were examined and compared.

Results: The number of patients who were diagnosed with brain death and became deceased donors at our center increased 4-fold in the period 2016-2019 compared to 2013-2016. In addition to this, our organ donation rate increased to 71.4%, which is much higher than the average in Turkey (24-28%). Between 2013 and 2016 trauma was the leading cause of brain death (42.8%), whereas between 2016 and 2019 cerebral hemorrhages rose to the first place with a rate of 89.3%. In 2018 a total of 199 and in 2019 a total of 62 brain deaths were reported from our organ donation coordination region with an approximate organ donation rate of 25%. In our center, 12 patients were diagnosed with brain death in 2018 and 8 of these patients became donors (66.7%), 6 brain deaths were diagnosed 2019 and 4 patients became donors (66.7%).

Conclusion: Since we started organ transplantation in our center in 2016, the number of patients diagnosed with brain death has increased significantly. We believe that establishing a healthy communication with relatives of the patients, as well as being an organ transplantation center, is an important reason for our much higher organ donation rates compared to Turkey's general rate, as these are the most effective ways to establish trust with the next-of-kin as well as the general public.

P2

Evaluation of Patients Receiving Primary Hemodialysis in Azerbaijan

H. Ismailov[1], Z. Hesenova[1], F. Babaev[2], K. Huseinov[3], K. Muslumov[1]

[1]«Medservis» PMC, [2]Republic Clinical Urology Hospital, [3]Scientific Surgical Center named after Academician M. Topchubashov, Azerbaijan

Introduction: Chronic kidney insufficiency is not only one of the most important health issues with high mortality rates but also it is a disease that constrains individuals daily life other related health issues it is a common health problem for Azerbaijan and the world as well. The most common treatment for kidney insufficiency is hemodialysis which is a substitute for the kidney. Patients' adherence for medical treatment is especially important to decrease mortality rates. In this study were searched hepatitis, anemia, and phosphorus calcium metabolism patients, who entered the hemodialysis department at the private medical center Medservice PMC.

Methods: The work was carried out on the basis of the hemodialysis department of the private medical center "Medservice". The following parameters have been studied in blood plasma to evaluate patients: Hemoglobin, Hepatitis B and C, total calcium (Ca), serum phosphorus (P), parathyroid hormone (PTH). A retrospective analysis of 184 case histories of patients first admitted for treatment with programmed hemodialysis was carried out. In the examined group age was 45.84 ± 3.1 years.

Results: Their 184 patients first admitted to HD had 5.6% diagnosed with positive hepatitis B, 9.7% had positive hepatitis C, and 6.2% had positive AIDS. The average level of calcium in the studied group (first received dialysis) was below the norm and was 2.00 ± 0.04 mmol/l (at the rate of 2.1–2.55 mmol/l), whereas the level of calcium by sex is statistically significant no different (p = 0.202). The average level of phosphorus was above the norm, namely 2.04 ± 0.11 mmol/l (at the rate of 0.81–1.45 mmol/l). The level of hemoglobin (Hb) in men on admission to HD was 89.6 ± 2.54 g/l (at a rate of 137-175 g/l), in women 80.37 ± 2.44 g/l (112-157 g/l), which is significantly below the norm and indicates anemia in this group of patients. It should be noted that the level of the parathyroid hormone in this group of patients was significantly higher than normal and amounted to 502.1 ± 36.01 mmol/l (at a rate of 12 -72 pg/ml), and in groups by sex it also did not differ significantly (p = 0.46). This trend indicates that this group of patients is at high risk of developing secondary hyperparathyroidism. For the correction of phosphorus-calcium metabolism, all patients were prescribed a hypophosphatemic diet. 76.1% of the total number of patients were prescribed phosphate-binding drugs. Of these, 52.18% of patients took drugs containing calcium, and 23.92% did not contain calcium.

Conclusion: In the groups studied, anemia and impaired calcium-phosphorus metabolism were diagnosed, which was manifested in lowered hemoglobin (Hb), calcium, high levels of phosphorus and parathyroid hormone. For the correction of phosphorus-calcium metabolism, all patients were prescribed a hypophosphatemic diet. To correct the level of the parathyroid hormone, patients were given vitamin D and calcimimetics, the drug dose and the frequency of administration were determined individually. Patients with Hb lower than 75 g/l for correction of anemia were treated with hemotransfusion and iron, erythropoietin, vitamin B12 and folic acid treatment to other patients.

P3

Veins Transposition to Create Vascular Access for Hemodialysis Patients

U.K. Yuldashev[1], B.B.Nurmuhamedov[2]

[1]Republican Specialized Scientific and Practical Medical Center, [2]Nephrology and kidney transplantation Ministry of Health of Republic of Uzbekistan, Tashkent, Uzbekistan

In the Republican Specialized Scientific and Practical Medical Center for Nephrology and Kidney Transplantation of the Ministry of Health of the Republic of Uzbekistan and at the Private Medical Clinic VITA-MED, for the period from 2015 to 2019, 93 operations on the transposition of the veins on the upper limbs were performed in order to create vascular access for hemodialysis procedures. There were 38 men, 55 women respectively. The main contingent of patients consisted of persons diagnosed with diabetes mellitus type II. Complicated diabetic nephropathy with outcome in end-stage chronic renal failure. It should be noted that all patients had previously produced various types of formation of arterio-venous fistulas (AMF). Arteriovenous fistulas formed from their own vessels are the method of choice for the formation of permanent vascular access for patients on hemodialysis. The number of native arteriovenous fistulas in elderly and obese patients can be significantly increased through the use of innovative surgical procedures, such as vein transpositions. The permeability indices of these fistulas are comparable with those of the primary radio cephalic AVF and significantly exceed those with the use of vascular prostheses. The fistula permeability is the same after one- and two-step transposition. Vascular access in the form of a transposition of the great saphenous vein is an acceptable alternative if it is impossible to create an AVF on the upper limbs.

References

1. Moysyuk Ya.G., Belyaev A.Yu. Permanent vascular access for hemodialysis. Tver: Triada Publishing House, 2014.
2. Gefen J.Y, Fox D., Giangola G. et al. The transposed forearm loop arteriovenous fistula: A valuable option for primary hemodialy¬sis aAccess in diabedc padents. Ann Vase Surg 2002; 16: 89-94.
3. Gradman, W.S., Laub, J., Cohen, W. Femoral vein transposition and intraoperative measures to reduce the incidence. JVascSurg2018; 41: 279-284.

Acknowledgments: *This article includes own research results, and most important practical recommendations for creation of autogeneous arteriovenous fistulas using veins transposition.*

Table I. Indicators of early insolvency and annual patency of AVF with vein transposition (93 operations)

Types of Arteriovenous Fistulas	Number of arteriovenous fistulas	Insolvency	The level of annual patency (%)
Brachio-radial AVF with a linear transposition of the main for arm vein	17	0	78%
Brachio-brachial AVF with loop transposition of the main for arm vein	14	1	79%
Radio cephalic AVF with line are transposition of the head vein for the arm	4	0	78%
Radio-brachial AVF with loop transposition of the head vein for the arm	7	1	74%
Brachio-cephalic AVF with line are transposition of the head vein of the shoulder	10	2	72%
Brachio-basilar AVF with a loop transposition of the main vein of the shoulder in one stage	11	0	70%
Brachio-basilar AVF with a linear one-step transmission of the main vein of the shoulder	10	2	67%
Brachio-brachial AVF with a line are transposition of the brachial vein in one step	9	0	80%
Brachio-brachial AVF with linear transposition of the brachial vein in two steps	11	1	76%

P4

Application of Selective Ultrafiltration during Hemodialysis

Hikmet Ismailov, Ilham M. Hamidov, Mirhashim R. Jalalov, Rustam T. Verdiyev, Rustam A. Khalilov, Kamil M. Muslumov, Arifa S. Guliyeva, Afsun Y. Annagiyev

Azerbaijan State Doctors Improvement Institute named after A.Aliyev, Clinical Medical Center, Baku, Azerbaijan

Introduction: In patients treated for hemodialysis for a long time, the activity of fluid movement between the cells or vascular internal area hemodialysis provides with fluid and causes the normal course of arterial blood pressure or collaptoid state. For this purpose, we wanted to directly evaluate the cardiovascular blood system at ultrafiltration and at the same time have chosen the treatment by studying the fluid conductivity of the pre-capillary and arterial sites using the McClure Aldrich test. Therefore, 100 patients treated with hemodialysis were examined at the Hemodialysis Department of the Clinical Medical Center. Bicarbonate hemodialysis was applied in the Fresenius 4008S apparatus in 48 female patients, 52 male patients and patients at the age of 18-75 twice per week (8 hours), as well as for 12 hours three times per week. The McClure Aldrich test was used during the session in 45 patients treated with hemodialysis for a long time. The McClure Aldrich test was performed by injecting 0.9% NaCl solution into 0.5 ml inside skin subcutaneously, 2.0 ml under the skin in front of the lower part of the lower one third.

Methods: In 18 new patients to whose subcutaneous skin and under the skin the McClure Aldrich test physiological solution was applied, the half of this solution has been absorbed at the first hour, and the full-absorption was observed at the second hour. Among these patients, maintenance of diuretics was detected in 15 patients and its decrease was observed in 3 patients. The amount of ultrafiltration was often at a minimum of 500-800 ml. Sclerotic, left ventricular hypertrophy and blood stripping off fraction in cardiac valves at cardiovascular blood system were observed.

Results: The physiological solution injected in the skin and under the skin in 24 patients was absorbed in the second-third hours and the amount of liquid accumulated within 36 hours in these patients was observed to be between 1000-1500 ml. Changes in the cardiovascular blood system (left ventricular hypertrophy, thickening of the valve, increased myocardial mass) were not observed in these patients within 1-3 hours by applying for the ultrafiltration program. Arterial blood pressure in only 5 patients at the age of 55-70 was detected to be 20-40 mm/ct. fell at the end of the session. In a group of patients to whom McClure Aldrich test was applied into the skin, the absorption delayed for 2-3 hours, however, absorption of the physiological solution injected under the skin happened in the 3-4th hours and the amount of ultrafiltration was between 1,250-1,600 liters. The reliability of the cardiovascular blood system was detected in 4 patients and we associate it with the application of ultrafiltration with interruptions. As a decrease in arterial blood pressure was resistant in 2 patients, it was restored by injection of polyglicin and physiological solutions into the vein, as well as by means of cardiotonic injection. In 8 patients to whom McClure Aldrich test was applied in the skin and under the skin by injection of the physiological solution, this solution was not absorbed in the fourth and subsequent hours which was clinically observed with the existence of liquid along with edema in the lower extremities and sometimes in the lower part of the chest cavity; moreover, it has been noted that collaptoid state occur frequently due to weakness of stability in the cardiovascular blood system during application of ultrafiltration. Therefore, ultrafiltration has been applied nearly at the end of the hemodialysis session in these

patients. Drugs that improve albumen and myocardial activity have been used at the beginning of the hemodialysis session.

Conclusion: Thus, it is necessary to conduct selective ultrafiltration by evaluating transcapillary fluid metabolism by means of applying McClure Aldrich test in patients with unstable hemodynamics while applying HD ultrafiltration. Anemia of Chronic Disease and Renal Failure.

P5

The Use of Retrograde Reperfusion of the Donor Kidney During the Implantation to Reduce Ischemic-Reperfusion Injury

Gani Kuttymuratov

Aktobe Medical Center, Aktobe, Kazakhstan

Introduction: Our aim was to reduce ischemic-reperfusion injury of a donor kidney in order to improve the functional capacity of the donor organ.

Methods: a total of 182 kidney transplants from a living donor were performed. Of these, in 69 cases retrograde reperfusion of the organ was applied. Retrograde reperfusion was performed by the venous blood of the recipient during implantation of the kidney from the moment of arterial anastomosis. The average time of cold ischemia was 54 ± 12 min, the duration of secondary thermal ischemia was 16 ± 8 min. After applying the end-to-side venous anastomosis between the vein of the donor kidney and the external iliac vein of the recipient, retrograde reperfusion of the kidney with venous blood was performed. Then an anastomosis was initiated between the artery of the kidney and the external or common iliac artery of the recipient. The average duration of the arterial anastomosis was 12 ± 2.6 min. Then was performed antegrade reperfusion of the kidney.

Results: In all cases, the graft function was satisfactory. Complications in the form of thrombosis of blood vessels were not observed. Normalization of serum creatinine and urea levels was observed on average on the 4th day after surgery. In 3 patients, a urological complication, urinary flow, was detected on days 9-11. Complications resolved promptly. Immunosuppressive therapy was carried out according to the standard scheme. Indications for diagnostic biopsy of the kidney transplant was not.

Conclusion: The use of retrograde reperfusion during implantation can improve the functional ability of the kidney transplant.

P6

Deodorant Sanitization with Chlorine Dioxide Power for Prevention of Respiratory Infection in Hemodialysis Patients

Wala Mderis, Issa Kawalit, Abbas El Khatib
Arab Renal Care Group, Amman, Jordan

Introduction: Hemodialysis (HD) patients are particularly predisposed to infections. Infections are the major cause of morbidity and the second cause of mortality in HD patients. Episodes of HD access bacteremia and pneumonia account for the majority of severe infections in this population. In addition to these bacterial infections another common problem in HD units is the viral transmitted infections; particularly blood transmitted infections such as hepatitis B virus, hepatitis C virus and droplets/ airborne transmitted infections such as the influenza virus. A number of safety concerns exist for limiting the occurrence and the spread of these infections among HD patients. The aim of this study is to evaluate the use of Deodorant Sanitization with Chlorine Dioxide power as a possible new modality to prevent respiratory infection in HD patients.

Methods: All participants signed a written informed consent before inclusion. Vaccination was proposed to all patients who attended our Dialysis Units .Exclusion criteria were ongoing infection at the beginning of the study, leukopenia (<2500/all), refusal of the patient to pursuit the study or patients underwent kidney transplant during the study period. We studied the effect of influenza vaccine on the incidence of respiratory infection in Hemodialysis patients and compared it to hemodialysis patients who refused vaccination and accepted the use of Deodorant Sanitization with Chlorine Dioxide power as a new method to prevent respiratory infection. The study was performed on hemodialysis patients under the care of the Arab Renal Care Group in Amman Jordan on October 2018 and followed until the end of March 2019. Patients were divided in to 4 groups (influenza vaccine group, Deodorant Sanitization Device group and No vaccine No device group.

Results: The 1-year incidence of influenza illness in the vaccinated group was 7.5 cases per 100 patients compared to 9.5 cases per 100 patients in the Deodorant Sanitization Device. When we compared the incidence of influenza illness in the Device group to the No vaccine No device group there was a clear benefit in lowering influenza illness in the device group .

Conclusion: Evidence on the protective effects of influenza vaccination in hemodialysis patients was superior and should be continuously recommended to this group of patients. None the less ,it was noted the protective effect of the Deodorant Sanitization with Chlorine Dioxide power in lowering influenza illness which can be considered as an adjuvant preventive measure in hemodialysis patients. Further studies are required to support the results.

Table 1.

Patient Groups	Number of Patients	Influenza illness
Influenza vaccine	22	5
Chlorine Dioxide Device (3 months completed)	9	2
Chlorine Dioxide Device (6 months completed)	7	2
No vaccine no device	4	1

P7

Deodorant Sanitization with Chlorine Dioxide Power for Prevention of Respiratory Infection Post Living Kidney Transplant

Wala Mderis, Abbas El Khatib, Issa Kawalit
Arab Renal Care Group, Amman, Jordan

Respiratory infections cause significant morbidity and mortality in patients post living kidney transplant. These pathogens are easily spread from asymptomatic and/or symptomatic personal to immunocompromised patients, and literature review of deodorant sanitization with chlorine dioxide power for prevention of infection post kidney transplant is not sufficient. The Arab Renal Care Group Quality Assurance Committee began a deodorant sanitization with chlorine dioxide power initiative for kidney transplant patients. The purpose of our initiative was to assess the impact of deodorant sanitization with chlorine dioxide power implementation on respiratory infection in all kidney transplant patients. We hypothesized that implementing it would reduce the number of respiratory infection post kidney transplant. We performed a retrospective study involving all patients underwent successful living kidney transplant in the last 4 years. In the last year, all patients were advised to use the deodorant sanitization with chlorine dioxide power in the first 6 months post living kidney transplant. Primary endpoint was incidence of respiratory infection after implementation.

The 1-year incidence of respiratory infection in the pre-implementation period in 2017 was 7 out of a total of 43 patients (3 out 10 patients) vs. 2 out of 36 patients (1 out 10 patients) after implementation in 2018. And the 1 year incidence rate in 2016 and 2015 were 3.6 and 3 respectively for every 10 patients (Figure 1).The difference in incidence of respiratory infection within the two time intervals was noted to be statistically significant.

Our quality initiative demonstrated that deodorant sanitization with chlorine dioxide power is an infection control modality that may provide benefit to kidney transplant patient in the high risk period post-transplant. Further studies are required to support the effectiveness of our implementation.

Table 1. Comparing the Respiratory Infection in Kidney Transplant patient with and without using the Device

2018 +Device	2017	2016	2015	
Total transplant	38	46	48	52
Medical Records Reviewed	36	43	41	45
Respiratory infection	2	7	9	8

P8

HLA Class II Haplotype Frequencies in ESRD Patients in Uzbek Population

Farhod Khadjibaev, Visolat Sharipova, Malika Ruzibakieva, Khikmat Anvarov, Pulat Ultanov, Nodir Sultanov
RRCEM, Tashkent, Uzbekistan

End stage renal disease (ESRD) has become a serious public health problem for today in Uzbekistan. Our interest was to find the possible associations of the frequency of the susceptible three-locus HLA haplotypes in ESRD patients and controls (ordered by statistical significance for susceptible haplotypes) in Uzbek population. In this study we have typed 258 patients with ESRD, and 353 healthy controls. Patients and control groups were typed for HLA class II DRB1, DQA1 and DQB1 polymorphisms by using Q- PCR based typing by the set of reagents by method of DNA amplification (HLA-DNA-Technology, Russia). Statistical analyses were performed by using Arlequin v3.5.2.2 and SISA. AIM: To determine the differences in HLA class II haplotypes frequencies among ESRD patients, potential kidney recipients. Using the EM algorithm 307 haplotypes identified in 258 ESRD patients, potential kidney recipients and 334 haplotypes identified in 353 control donors, respectively. Among identified haplotypes, the frequencies of the three haplotypes were significantly more frequent HLA-DRB1*04-DQA1*03:01-DQB1*03:02 ($\chi2$ = 30,226, OR≥2,619), HLA-DRB1*15-DQA1*01:02-DQB1*06:02 ($\chi2$ = 25,289, OR≥2,611) и HLA-DRB1*15-DQA1*01:03-DQB1*06:01 ($\chi2$ = 4,805, OR≥1,774) in ESRD patients, respectively. There were also significant protective combinations in the studied group - DRB1*04-DQA1*03:01-DQB1*03:01, which registered in 17,1 times less in a patients group with OR≥0,058, $\chi2$= 14,536 и PF = 15,841. Also, protective associations were found for DRB1*04-DQA1*03:01-DQB1*02:01 ($\chi2$ = 4,996, OR ≥ 0,135; PF = 6,321), HLA-DRB1*09-DQA1*03:01-DQB1*03:03 ($\chi2$= 15,531, OR≥0,626 ; PF=0,589), HLA-DRB1*11-DQA1*05:01-DQB1*03:01 ($\chi2$= 15,923, OR≥0,380; PF=1,523), HLA-DRB1*12-DQA1*05:01-DQB1*03:01 ($\chi2$ = 4,117, OR≥0,337; PF = 1,939), HLA-DRB1*13-DQA1*01:03-DQB1*06:02-8 ($\chi2$ = 7,421, OR≥0,520 и PF=0,885). In summary, this study detected the association between HLA haplotypes and ESRD and its susceptibilities for ESRD within the Uzbek population. Three susceptible haplotypes and five protective haplotypes were detected in Uzbek ESRD patients awaiting kidney transplantation. These HLA haplotypes might serve as useful genetic marker for ESRD within the Uzbek population. Results from our study should be confirmed in further investigations.

P9

Are Angiotensin-Converting Enzyme-1 Gene and Genes Encoding For Angiotensinogen Polymorphisms Associated With ESRD in Uzbeks?

Farhod Khadjibaev, Malika Ruzibakieva, Dilshod Ergashev, Jahongir Sadikov, Khikmat Anvarov, Pulat Sultanov

RRCEM, Tashkent, Uzbekistan

Introduction: Renin–angiotensin–aldosterone system (RAAS) plays important roles in regulating renal hemodynamics and renal functions, as well as in the pathophysiology of hypertension and renal disease. The effect of genetic determinants on the development of chronic kidney disease is clear. Although probability of development of chronic kidney disease (CKD) in a patient with a history of hypertension and CKD is very high but a clear mechanism is still unknown. More deep study of different phenotypes observed in end stage renal disease (ESRD) would help us to determine whether a patient is genetically predisposed to such complications. Various genes from different components of RAAS are involved in the regulation of both blood pressure and renal function and might play a huge role in their interaction. The presence of insertion/deletion (I/D) polymorphism of Angiotensin-Converting Enzyme (ACE) affects the plasma and tissue ACE levels. DD genotype of ACE is associated with highest systemic and renal ACE levels, compared with the lowest ACE activity associated with carriers of II genotype. Rigat et al first reported that the ACE insertion (I)/deletion (D) polymorphism involves the presence or absence of a 287-bp sequence of DNA in intron 16 of the gene. Angiotensinogen is codified by AGT gene in chromosome 1q42-43 and can be cleavaged by different enzymes to generate angiotensin I or angiotensin II directly. In the present study, we investigated whether genetic polymorphism in M235T-AGT and insertion/deletion (I/D)-ACE gene polymorphisms lead to chronic kidney disease among hypertensive patients. Genotypic profiling was also compared in both hypertensive patients with CKD and in healthy donors.

Methods: Genotyping was performed in 102 control subjects and 94 ESRD patients for the M235T-AGT, the insertion/deletion (I/D)-ACE gene polymorphisms using polymerase chain reaction, gel analysis.

Results: Genotype frequencies did not differ significantly between ESRD patients and controls. The AGT-TT genotype had a tendency for significance to be associated with ESRD in patients with glomerulonephritis in female group ($\chi 2=3,068$). In the total ESRD population there was no associations with any ACE alleles or genotypes. But it was found a strong association with a rapid progression in ACE-DD as compared with ACE-DI and II in patients with ESRD ($P < 0.01$).

Conclusion: There is a possibility that AGT-TT genotype is associated with ESRD in patients with glomerulonephritis in female group but the study should be continued. Faster progression to ESRD is associated with the ACE genotype. Thus, genes of the renin-angiotensin-aldosterone system are candidate genes for further understanding of the interindividual differences in the development and course of ESRD.

P10

Anemia of Chronic Disease and Renal Failure

Elvin Isaev

Lankaran Treatment and Diagnostic Center, Lankaran City, Republic of Azerbaijan

Anemia is a frequent complication during the later stages of chronic kidney disease. When present, it may cause symptoms such as fatigue and shortness of breath. The pathogenesis of anemia in chronic kidney disease is complex, but a central feature is a relative deficit of erythropoietin. New information has elucidated the critical role of the hypoxia-sensing system in mediating erythropoietin synthesis and release. Iron deficiency is a second important factor in the anemia of chronic kidney disease. New insights into the dynamics of iron metabolism have clarified the role of chronic inflammation and hepcidin as key mediators of impaired iron utilization. In this article, we review the epidemiology, pathobiology, clinical evaluation, and treatment of anemia in chronic kidney disease. In general, anemia is more common in women, in particular, those in their childbearing years. In the latter decades of life, anemia tends to occur without any particular sex predilection. However, in patients with chronic kidney disease (CKD), the risk of developing anemia is 30% higher in males than in females. Although males have higher hemoglobin values, they also have higher rates of advanced CKD. The prevalence of anemia is lower in current smokers, which has been attributed to secondary erythrocytosis. Anemia is common in patients with CKD. The landmark study by Obrador et al showed that among predialysis patients, 68% of those with advanced CKD who required renal replacement therapy had a hematocrit of less than 30%; of those, 51% had a hematocrit less than 28%. Furthermore, although anemia is not as common in earlier stages of CKD, the prevalence of concurrent anemia was 5.2% in patients with stage III disease, rising to 44.1% in those with stage IV disease.

The prevalence of anemia of CKD is also greater in those older than 60 years, as compared with those age 46 to 60 years.This is probably secondary to the greater rate of CKD in older individuals, as well as the lower estimated glomerular filtration rates (GFRs) that are associated with aging. Blacks have not only a 4-fold increased risk of developing CKD relative to whites but also an increased prevalence of anemia.

P11

Improved Quality of Life (QoL) In Renal Transplant Recipients than Dialysis and Non-Dialysis Chronic Kidney Disease (CKD) Patients

Mm Iqbal[1], Mn Rahman[2], Mm Alam[2], Pkd Nath[1], K Islam[3], Rm Hossain[4], Aa Chowdhury[5]

[1]SSMC, [2]Tejgaon College Dhaka, [3]CKDU Hospital, [4]BSMMU, [5]NIKDU, Dhaka, Bangladesh

Introduction: Health-related quality of life is increasingly used as an important measurement of treatment outcome. Our objective was to evaluate quality of life parameters in renal transplant recipients (RTX) and compare that with CKD patients on maintenance dialysis (HD) and those not requiring dialysis (CKD-ND).

Methods: This cross-sectional study was carried in tertiary renal care hospital. Total 15 RTx, 20 HD and 28 ND-CKD patient were selected. Around 40 healthy individual also included as control (HC). Different biochemical parameters were evaluated. Quality of life (QoL) was assessed by KDQOL-SF-36(V-1.3) questionnaire.

Results: Mean age of Transplant patients 39+11 years, Hemodialysis 44+12 years, CKD patients was 49±12 years and control 56+11 years. Distribution of sex was similar. The major QoL parameters showed higher scores in RTx subjects and in many instances these were similar to HCs. Comparing HC, CKD-ND, HD and RTx for physical function showed score 80±12, 69±27, 37±28 and 91±10 ($p<0.001$); pain 74±12, 44±17, 30±14 and 69±29 ($p<0.001$); social function 73±11, 61±46, 24±15 and 70±28 ($p<0.001$) and energy fatigue 76±11, 51±13, 40±7 and 66±11 ($p<0.001$) respectively. In all these domains HC and RTx had similar scores ($p=0.78$), ($p=0.91$), ($p=0.97$) and ($p=0.27$) respectively.

Conclusion: Health related quality of life (HRQOl) among patients of CKD was poor. But renal transplant improved quality of life. Transplant patients hadquality of life almost similar to healthy individual.

P12

Pure 3D-Laparoscopic Living Donor Nephrectomy: First Case in Kazakhstan

Myltykbay Rysmakhanov

Aktobe Medical Center, Aktobe, Kazakhstan

Introduction: Living donor kidney transplantation has become a common surgical procedure due to the scarcity of cadaver donors and has greatly improved the survival of the graft in last decades. Since the mid-1990s, laparoscopic donor nephrectomy (LDN) has become a more widely performed operation in field of kidney transplantology. In the early 1990s, 3D visualization technology was introduced in endoscopy to facilitate video laparoscopic surgery, which recently became routine with advantage of clear stereoscopic visualization. Available scientific literature describes the tangible benefits of operations using new 3D laparoscopic systems. Currently, in the CIS countries including the Republic of Kazakhstan, the technique of 3D-laparoscopic nephrectomy at the implementation stage.

The purpose of this report is to describe the first experience of pure 3D-laparoscopic living donor nephrectomy for transplantation in Republic of Kazakhstan with the participation of specialists from "Başkent University" in Turkey (President: Prof. M Haberal).

Case Report: A 21 years male recipient, with CKD V stage, received hemodialysis for 8 months. Donor was his father, 52 years old, without any chronic diseases. According to the preoperative computed tomography of the donor, the vascular anatomy on both sides is typical, it was decided to remove the left kidney. The operation was performed with general anesthesia using a 3D-endovideoscopic stance with flexible camera ("Olympus", Japan). The patient was in position on the right side with a bend of the body at 45°. Three trocars were used: one trocar 2 cm below the belly button (10 mm) – for the camera, second trocar (5 mm) was placed along the lateral edge of the left rectal muscle at a level of 2 cm below the belly button and third (12 mm) trocar in the left ileac region. The technique of operation was performed typical way. Kidney artery and vein are isolated to their origins after the exposure of the left kidney with the intersection of the gonadal vein, adrenal vessels. The ureter is transected in the distal part at the level of the iliac vessels. After complete mobilization of the left kidney in the left ileac region, a 5 cm cut of peritoneum was made for the subsequent removal of the graft. The renal artery and vein are sutured and intersected by a linear vascular suturing apparatus and the kidney is extracted from the abdominal cavity through a cut in the ileac region – transferred to the "back-table". After revision of the operating area, the trocars were removed, the wounds were sutured layer-by-layer, without leaving the drainage to abdominal cavity. The time of warm ischemia was 125 seconds; the total operation time was 280 minutes. No blood loss and intraoperative complications were observed. Recipient operation was unremarkable, the graft function was satisfactory. The postoperative period of donor proceeded smoothly, without any complication. The patient was discharged on the third day after the operation with normal indices of creatinine and urea.

Conclusion: This message contains report of the first "Pure 3D-laparoscopic living donor nephrectomy" performed in Kazakhstan. The 3D-laparoscopic imaging system provides a better spatial orientation, a more complete and accurate differentiation of tissue and organs elements compared to a two-dimensional system. With the accumulation of experience in future, 3D laparoscopic nephrectomy from living donors can become a new standard surgery technique.

P13

Variants of Implementation of Vascular Anastomosis in Related Kidney Transplantation in Patients with Multiple Blood Supply

Farhod Khadjibaev, Nodir Sultanov, Dilshod Ergashev, Pulat Sultanov, Maksud Rashidov

RRCEM, Tashkent, Uzbekistan

Introduction: The most promising method of treating patients with end-stage chronic renal failure today is renal allotransplantation, which allows not only to preserve the lives of patients for the longest possible time, but also to ensure their medical and social rehabilitation in the best possible way. In the department of transplantology, in the Republican Scientific Center for Emergency Medicine (RSCEM) for the first time renal transplantation was performed in 2018, to date, 50 such transplants have been done. In most cases, the donor kidneys were typical for the anatomical structure - i.e. with 1 artery and 1 vein. However, in 46% of cases there were donor kidneys with multiple arteries or veins. Adequate location ("laying") of the renal allograft in the recipient retroperitoneal space is playing a huge role for the full function of the transplanted kidney. If the kidney is in an unsatisfactory position in the bed, there may be a violation of the main blood flow associated with the bend or torsion of the renal artery or vein, the appearance of obstacles to venous outflow, which slows down the post-ischemic repair and reduces the functionality of the renal allograft. Moreover, in this situation, access to the place of application of vascular anastomoses worsens (which increases the time of secondary thermal ischemia) and the mobility of the renal allograft relative to the axis of the recipient's own and iliac vessels decreases. The purpose of the study is to study the possibility of creating optimal ways of supplying a transplanted kidney with multiple arteries or veins from related donors.

Methods: The study included 50 allotransplantations of a kidney from living related donors. Of these, 24 men (48%), women 26 (52%), the age of the recipients ranged from 14 to 59 years. In 47 (94%) cases donors were in first degree of relationship (parents, brothers, sisters), in 3 (6%) - second (cousin, uncle, aunt). 26 (52%) left and 24 (48%) right donor renal grafts were used. Out of 50 grafts, 27 (54%) had 1 artery and 1 vein (1st group), 23 (46%) had transplanted variant vascular pedicle (2nd group). In the 1st group, an anastomosis of the artery of the graft and either the internal iliac artery of the recipient ("end to end") was applied 8 times, or the external iliac artery ("end to side") - 19 times. In all 50 cases, the venous anastomosis was applied "end to side" between the graft vein and the recipient's external iliac vein. The variant vascular pedicle in 9 (18%) cases was with 1 artery and 2 veins, and in 14 (28%) cases - with 2 arteries and 1 vein. In the 2nd group, in 3 (6%) cases, both arteries were the same in diameter, and in 11 (22%) cases they differed (1 main and 1 additional artery). We used different variants of vascular anastomoses. Arterial plasty was anastomosis stitching of 2 equal arteries of the "side-to-side" type with the formation of a single fistula in 3 (6%) cases. The graft arteries thus stitched were anastomosed with the end-to-end internal iliac artery of the recipient. In cases where the grafts had 1 main and 1 additional artery of small diameter, the anastomoses were superimposed between the main artery of the graft end-to-side, then in the internal iliac artery of the end-to-end recipient, or the main artery was anastomized end to side with the outer ileal artery. The transplants that had 2 renal veins were anastomosed in the same way as the renal arteries, after preliminary side-by-side venoplasty with the formation of a single fistula.

Results: The function of renal grafts and intrarenal hemodynamics in the postoperative period was assessed according to the results of clinical and laboratory studies, color duplex scanning (DPC) and MSCT angiography. In the 2nd group in one case (2%) on day 1 after surgery thrombosis of the anastomosis of the renal veins was observed, which was confirmed in the CDS. On the same day, thrombectomy from the anastomosis area was performed again and reanastomozirovanie. Despite the treatment the patient developed pulmonary embolism on day 6, which was fatal. In the same group of patients, in 2 (4%) cases, on the background of anticoagulant therapy, bleeding from the venous anastomosis with an increasing hematoma was noted, which required repeated intervention — removal of the hematoma and the imposition of additional nodal stitches, after which the state of the patients improved in dynamics, subsequently they were written out. In the remaining cases, positive dynamics was noted, the average daily diuresis was 7000 ± 550 l. Normalization of the level of nitrogenous slags in plasma (creatinine <200 mmol/l) occurred on average during the first 6 days after transplantation. No statistically significant differences in creatinine and urea were found. Blood flow indices were assessed according to doppler sonography; in both groups, blood flow velocity indices and vascular resistance indices were within the normal range and did not differ significantly from each other. The index of peripheral resistance for arcuate arteries varies from 0.58 to 0.68, for segmental arteries from 0.62 to 0.71. All 49 patients were discharged from the hospital with satisfactory renal transplant function on the 18-30th day.

Conclusion: The presence of several vessels supplying the kidney of a living related donor is not a contraindication to transplantation and does not reduce the function of the transplanted organ. Evaluation of the effectiveness of blood flow through the transplanted kidney should be based on data from the VTC.

P14

Intraoperative Transversus Abdominis Plain Block for Postoperative Analgesia after Living Donor Nephrectomy

Visolat Sharipova, Azamat Alimov, Mirodil Sadikov, Farhodjon Siyabayev
RRCEM, Tashkent, Uzbekistan

Introduction: Adequate multimodal postoperative analgesia not only reduces the patient's subjective feeling of pain, but also reduces the time of hospital stay due to early activation, prevention of postoperative ileus, etc. Recently, methods of interfascial truncular blockades (rectus sheath block, different types of transversus abdominis plain block, erector spine plain block etc.) have been demonstrated as an effective component of multimodal anesthesia in various fields of surgery, including transplantology. We aimed to study the effectiveness of postoperative analgesia of intraoperatively performed transversus abdominis plain block (TAP block) during living donor nephrectomy.

Methods: A prospective study was conducted with the participation of 12 patients (males) who had undergone elective living donor nephrectomy. The average age of patients was 29±7.8 years. Extraperitoneal nephrectomy with pararectal surgical approach was performed. All operations were done by one surgical team under general combined anesthesia (induction: propofol 2-2.5 mg/kg, maintenance: isoflurane 1-1.5 vol% and fentanyl 4-6 μg/kg/hour). Patients were randomized into 2 groups: the control group (n=8) where planned postoperative analgesia was performed: paracetamol 1 g intravenously one hour before the end of the operation, ketoprofen 100 mg intravenously every 12 hours and paracetamol 500 mg orally every 6 hours. In the main group (n=4), in addition to planned analgesia intraoperatively, a unilateral transversus abdominis plain (TAP) block was performed during suturing for postoperative analgesia. A 22G needle advantaged into the space of the transverse abdominal muscles (between the transverse and internal oblique abdominal muscles) and 30 ml of 1% lidocaine with 4mg of dexamethasone as an adjuvant was administered. In the postoperative period, patients had the opportunity to receive intravenous morphine hydrochloride. The effectiveness of postoperative analgesia was assessed during the first 24 hours after surgery (1, 8, 16, and 24 hours) at rest and movement using visual analogue scale (VAS) and the average score was determined. The parameters of standard monitoring (pulse, non-invasive blood pressure, oxygen saturation, body temperature), the incidence of postoperative nausea and vomiting (PONV), and morphine consumption per patient were also studied.

Results: During the first postoperative day, the intensity of pain during rest in patients of the control group averaged 4.3 ± 1.3 points, and in the main group 1.8 ± 0.97 points. During movement, pain was rated 5.2 ± 1.67 and 2.47 ± 1.45 points by patients in the control and main groups, respectively ($p < 0.05$). In control group, morphine consumption during the first 24 hours was 7.3 ± 3.71 mg per patient, in the main group this indicator was insignificant and amounted to 0.67 ± 1.76 mg ($p < 0.05$). In the control group, 4 patients (50%) on the first day after the operation complained about nausea. 2 (25%) patients had vomiting once. Patients of main group (n = 4) did not have nausea and vomiting, probably due to less use of opioids and more adequate control over pain.

Conclusion: Transverse abdominis plain block (TAP block) in combination with non-narcotic analgesics in the first day after living donor nephrectomy significantly reduces pain intensity, opioid consumption and the risk of PONV.

P15

Lung Related Complications: Is There Any After Donating a Kidney?

Dorina Esendağlı[1], Elif Küpeli[1], Aydıncan Akdur[2], Mahir Kırnap[2], Şule Akçay[1], Gökhan Moray[2], Mehmet Haberal[2]
Departments of [1]Pulmonary Diseases and [2]Transplantation, Baskent University, Ankara, Turkey

Introduction: Kidney transplantation has been considered as the best treatment option for end-stage kidney disease. Living donors compose the main resource for organ donation in this group of patients. There is lack of data regarding the lung related complications that might occur after donation. This study aims to analyze the pulmonary complications encountered after kidney donation.

Methods: This study was performed retrospectively by analyzing the data of the adult kidney transplantation from January 2013 to October 2018 in Baskent University Hospital in Ankara, Turkey. All the kidney donors were evaluated in Chest Diseases Department for their convenience before operation.

Results: A total of 291 kidney transplants were performed in the specified timeline. 223 of the donors were living ones whereas 68 of them were deceased. The average age of donors was 45.8 ± 13.7 years. No gender disparity was found within donors and 47.8% of them were male. The living donors were mainly first degree relatives (63.7%), spouse (22.8%) and other relatives (13.5%). Interestingly almost half of the donors (48.9%) were either active smokers or ex-smokers. 53 of them (23.7%) were found to be positive for latent tuberculosis and prophylaxis was recommended to the organ recipients before transplantation. Only 2 (0.9%) donors developed pulmonary complications in the post-operative period. 1 patient had atelectasis on the second day post operation and the other one developed community acquired pneumonia 2 times in the long term follow-up.

Conclusion: This is the first study to analyze the lung related complications after kidney donation in living donors. According to the results it is quite obvious that there is almost no pulmonary complication after the donation of kidney and it is safe even in long term.

P16

Do QuantiFERON Positive Kidney Donors Create a Risk Of Developing Tuberculosis in Recipients?

Dorina Esendağlı[1], Şule Akçay[1], Ebru H. Ayvazoğlu Soy[2], Mahir Kırnap[2], Elif Küpeli[1], Gökhan Moray[2], Mehmet Haberal[2]

Departments of [1]Pulmonary Diseases and [2]Transplantation, Baskent University, Ankara, Turkey

Introduction: Tuberculosis, a common opportunistic infection, can be seen after solid organ transplantation. The QuantiFERON test is widely used for assessing latent tuberculosis and is a part of the pre-operative evaluation before transplant. However, it is still not very clear whether the pre-transplant QuantiFERON of the donors can predict post-transplant tuberculosis.

Methods: This study was performed retrospectively by analyzing the data of the kidney transplants from January 2011 to October 2018 in Baskent University Hospital in Ankara, Turkey.

Results: A total of 291 kidney transplantations were performed in the specified timeline. 220 of the donors (75.6%) were living and the others were deceased. QuantiFERON test was performed to only the living donors. 24.1% of the living donors (53 patients) were positive for the QuantiFERON test and 9 patients (17%) who received a kidney from these donors were also found to be positive. In 8 years, tuberculosis was not diagnosed in recipients. On the other hand, there were pulmonary complications, that are mainly infections of the lower respiratory tract, which were independent from QuantiFERON test results of either donors or recipients. The overall mortality of recipients who had their organ from a QuantiFERON positive donor was calculated as 3.8%.

Conclusion: This study shows that a positive QuantiFERON test of the living kidney donors does not increase the risk for the development of tuberculosis in kidney recipients. In our hospital isoniazid prophylaxis is routinely offered to QuantiFERON positive donors and recipients. This might be main the reason of having no tuberculosis, even though these cases are living in a country which is still endemic for this disease.

P17

Pulmonary Complications and Intensive Therapy in Renal Transplant Recipients

Sardor Ibragimov, Ravshan Ibadov, Feruz Nazyrov

SUE "Republican specialized scientific-practical medical center of surgery named after academician V.Vakhidov", Tashkent, Uzbekistan

Introduction: Frequency of pulmonary complications after renal transplant has been reported to range from 3% to 17%. The objectives of the study were to determine the frequency and causes of pulmonary complications, to compare the clinical features and outcomes between patients with and without pulmonary complications after kidney transplantation.

Methods: We conducted a retrospective and prospective screening of data from 159 recipients of the renal graft, which were operated on by the "RSSPHCH named after academician V.Vakhidov" in the period from 2010 to 2018, and included in the study of all recipients who re-entered the intensive care unit and intensive care during this period. Pulmonary complications were defined as severe shortness of breath, decreased oxygen saturation, hypoxemia or hypercapnia, or the need for non-invasive or invasive mechanical ventilation.

Results: among 159 adult recipients of renal transplants, 16 (10.1%) were hospitalized in the ICU, including 11 (68.8%) were due to acute respiratory failure. The average time from transplantation to acute respiratory failure was 14 months (range 0-14 months). The main causes of pulmonary complications were bacterial pneumonia (56%) and cardiogenic pulmonary edema (44%). The average value of the oxygenation index was 164±49. Invasive artificial ventilation was performed in 6 patients (37.5%), and non-invasive mechanical ventilation - in 5 patients (31.3%).

Conclusion: pulmonary complications were the cause of admission to the ICU in almost half of the recipients of a kidney transplant with a complicated early and late postoperative course. The main causes of pulmonary complications were bacterial pneumonia and cardiogenic pulmonary edema. Mortality of patients hospitalized for acute respiratory failure was similar to that without respiratory complications.

P18

Incidence of Cardiovascular Events after Renal Transplantation

Emir Karaçağlar[1], Arzu Neslihan Akgün[1], İbrahim Haldun Müderrisoğlu[1], Mehmet Haberal [2]

Departments of [1]Cardiology and [2]Transplantation, Baskent University, Ankara, Turkey

Introduction: Cardiovascular disease (CVD) is one of the most common cause of mortality after renal transplantation (1). Renal transplant recipients present not only conventional CVD risk factors (such as obesity, smoking habits, diabetes, hypertension or dyslipidemia) but also with more transplant specific risk factors related to end-stage renal disease (ESRD) (2,3). Even though some studies have documented a reduction in CVD-related deaths in renal transplant recipients, CVD is still the leading cause of death in patients with a functioning allograft (4). The aim of this study is to determine the incidence of cardiovascular events after renal transplantation.

Methods: Our research is an observational retrospective cohort study of renal transplant recipients in the Başkent University Hospital in the period 2014-2017. In total, 56 renal transplant recipients were included. After transplantation cardiovascular events are defined as the presence of myocardial infarction, percutaneous coronary interventions, new-onset angina and death. The variables included: patients characteristics, traditional cardiovascular risk factors, routine biochemistry, and other comorbidities.

Results: Our study was an observational retrospective cohort study of all kidney transplant recipients in the Başkent University Hospital in the period 01/2014-01/2018. In total, 56 renal transplant recipients older than 18 years were included. The mean age was 48.4 ±11.3 years and 21,4% were female. 14.2% had suffered a coronary artery disease prior to transplantation and one patient had an acute myocardial infarction. We analyzed the incidence of cardiovascular events with the mean time elapsed from transplantation to the coronary angiography being 9.34±5.2 years. Thirty-six (64.2%) renal transplant recipients had a cardiovascular event in this post-transplantation period. 6 of this patients who developed cardiovascular events were women. Five patients (8.9%) underwent to bypass surgery after coronary angiography procedure. We performed to stent implantation in 14 patients. The remaining patients were given medical treatment decision. We did not observe any acute or chronic cardiovascular events in 21 patients. One patient died because of non cardiac reasons (pulmonary aspergillosis). Two patients died following cardiac surgery and one patient died about acute decompensated heart failure.

Conclusion: This study makes it possible to determine the post-transplant incidence of cardiovascular events in renal transplant recipients and observe the transplant-specific cardiovascular risk factors. Thus, modifiable risk factors are defined and the incidence of cardiovascular events can be reduced by changes in these factors.

References

1. Pilmore H, Dent H, Chang S, McDonald SP, Chadban SJ (2010) Reduction in cardiovascular death after kidney transplantation. Transplantation 89: 851–857.
2. Kasiske B, Chakkera H, Roel J: Explained and unexplained ischemic heart disease risk after renal transplantation. J Am Soc Nephrol 2000, 11(9):1735-1743. Ojo A: Cardiovascular complications after renal transplantation and their prevention. Transplantation 2006, 82(5):603-611.

P19

The Effect of Kidney Transplantation on Balance and Fall Risk

Nihan Tekkarışmaz[1], Pınar Doruk Analan[1], Rüya Özelsancak[1], Dilek Torun[1], Kenan Çalışkan[2], Mehmet Haberal[3]

Departments of [1]Nephrology, and [2]Transplantation, Baskent University, Adana; and [3]Transplantation, Baskent University, Ankara, Turkey

Introduction: Kidney transplantation provides significant quality of life improvements for patients with End Stage Renal Disease. Previous studies on balance in End Stage Renal Disease patients have shown an increased risk of falling. However, there is no similar study in kidney transplant recipients (KTRs). This study aimed to compare balance and fall risk between KTRs and healthy adults, and aimed to determine the correlation between biochemical parameters and fall risk and balance assessments in KTRs.

Methods: 133 KTRs (male/female: 80/53, mean age: 39 ± 12 years) and 158 (male/female: 80/53, mean age: 39 ± 12 years) age, gender, and body mass index (BMI) matched controls participated in the investigation. Fall Index percentages were calculated, and fall risk categories were determined for all patients and healthy controls using Tetrax posturography device (Sunlight Medical Ltd Israel). For KTRs group, duration of dialysis, duration of transplantation, medication history, blood pressure, blood levels of immunosuppressive drugs, and serum biochemical parameters were recorded and correlation analysis was performed between these parameters and balance measurements.

Results: There were no statistically significant differences between groups in terms of the fall risk according to Tetrax measurements. (32.4±23.4 vs 31.6±21.7; p=0.08). Serum creatinine (1.17±0.37 vs 1.63±1.18; P=0,01), and oral antidiabetic drugs (p=0,02) were negatively correlated with balance parameters of KTRs. There was no statistically significant correlation between duration of dialysis, duration of transplantation, blood levels of immunosuppressive drugs, and blood pressure with balance parameters or fall risk.

Conclusion: Balance was not impaired in KTRs in comparison to healthy subjects. However, the risk of falling was increased in KTRs with impaired graft function and diabetic renal transplant patients using oral antidiabetic drugs.

P20

Assessment of Middle Ear Mechanics, Internal Ear Accoustical Emission Measurements and Hearing in Patients with Renal Transplantation

Işılay Öz[1], Ebru H. Ayvazoğlu Soy[2], C. Burak Sayın[3], Levent N. Özlüoğlu[1], Mehmet Haberal[2]

Departments of [1]Otolaryngology, [2]Transplantation, and [3]Nephrology, Başkent University, Ankara, Turkey

Introduction: People who has kidney diseases, having hearing loss which depends on many factors. The cochlear cells in kidney and inner ear have similar anatomic, physiologic, immunologic and pathologic properties in microscopic view. Renal glomerule is similar to stria vascularis (that has direct relation to epithel structure) as compared with the tubules. For this reason nephrotoxic drugs, electrolyte imbalances, biochemical, immunological, osmotic and vascular differences may have influence on middle- inner ear and central pathway. In this study it was aimed to evaluate the middle ear mechanism, outer hairy cell function in inner ear and hearing threshold in patients with renal transplantation.

Methods: Twenty renal transplant recipients (40 ears) were investigated. Ten healthy volunteers (control group) were included in the study. All patients underwent audiologic assessment by means of pure-tone audiometry and otoacoustic emission (OAEs) measurements.

Results: Mean follow-up time after transplant was 6.8 ± 6.1years (1-20 years). Hearing performance for the four frequency averages between the 2 groups was significantly different (p=0.002). When the cochlea outer hairy cells were evaluated, the signal-to-noise ratio was significantly lower in the transplanted group (p<0,05).

Conclusion: These results support the presence of auditory dysfunction in patients with renal transplantation. Low levels of OAEs support that renal transplant patients are prone to cochlear dysfunction. Therefore, audiometric evaluation of patients should be done before and after kidney transplantation and patients should be informed about possible otologic involvement.

P21

Femoral Neck Fractures in Renal Transplantation Patients: Clinical and Radiological Outcome Analysis with At Least 1 Year Follow-up

Bahtiyar Haberal, Ekin Kaya Şimşek, Orçun Şahin, İsmail Cengiz Tuncay

Department of Orthopedics and Traumatology, Baskent University, Ankara, Turkey

Introduction: Femoral neck fractures are life-threatening injuries that cause mobilization restriction and restriction-related morbidities. It is very well-known in the literature that the risk of femoral neck fracture incidence increases approximately 4 times in patients who underwent long-term dialysis. Nevertheless, this rate gets higher in patients undergoing renal transplantation. Metabolic bone mineral pathologies related to chronic renal failure and immunosuppressive therapies used before and after transplantation and age-related osteoporosis leads to the increased incidence of these fractures. The purpose of this study is to analyze the clinical and radiological outcomes of femoral neck fractures after renal transplantation with a minimum 1-year of follow-up.

Methods: Renal transplant patients with femoral neck fractures who were scheduled to undergo surgical treatment (either hip hemiarthroplasty or screw fixation) between January 2011 and 2018 were retrospectively reviewed. Patients who had any other proximal femoral fractures, patients who did not require surgical treatment and patients who had less than 1 year of follow-up were excluded from the study population. A total of 7 patients (4 Males, 3 Females) were enrolled for the study. Patients' demographic characteristics including mortality rates were recorded. For the clinical analysis, parameters including transplantation data (cause of transplantation, source of organ, drug regimen), biochemical markers (phosphate (P), alkaline phosphatase (ALP), vitamin D level, bone mineral density (BMD) value, Albumin, parathyroid hormone (PTH)), history of parathyroidectomy, history of fracture, history of bisphosphonate use, data on femoral neck fracture (type of fracture, year after transplantation, surgical procedure, duration of union), surgical risk (ASA score, preoperative anesthesia risk, cardiac risk), complications, postoperative functional score and follow-up BMD were recorded. The relationship between steroid use, BMD, biochemical markers and time after transplantation surgery were statistically evaluated. The fracture union, implant failure, misalignment/dislocation and any refractures were recorded for the radiological evaluation.

Results: The mean age of the patients was 54,8 years (range: 43-70). The mean follow-up period was 26,12 months (range: 13-42). Total mortality rate was 42,85% (3/7 patients). Three patients had hip hemiarthroplasty and remaining four patients had screw fixation with three 6.5 mm cannulated screws. Among the patients who had screw fixation, two had revision surgery of hemiarthroplasty due to screw failure and non-union. Although there was no statistically significant difference between the study parameters including biochemical markers, transplantation outcomes and surgical risk evaluation, the fracture type and the duration of steroid use had significantly higher risk of mortality and implant failure.

Conclusion: Although changes in the drug regimen trend over the years following transplantation and the use of bisphosphonate reduce the risk of fracture, an increased fracture risk persists compared to the healthy population. Femoral neck fractures are seen in these patients at an earlier age than healthy patients and therefore primary fixation methods are used but union problems occur. Hip arthroplasty surgery is an effective treatment method that can be used safely in patients undergoing renal transplantation. In addition, bone mineral diseases should be kept in mind in renal transplantation patients and preventive measures should be taken.

P22

Comparison of Isolated Transplant Glomerulopathy with Chronic Antibody-Mediated Rejection (CAMR) in Regards to Endothelial-to-Mesenchymal Transition (EndoMT) and Graft Survival

B. Handan Özdemir[1], Eda Akçay[1], Aydan Akyüz Özdemir[2], Mehmet Haberal[3]

Departments of [1]Pathology, [2]Public Health, and [3]Transplantation, Baskent University, Ankara, Turkey

Introduction: Transplant glomerulopathy (TG) has been proposed to be a component of CAMR. However, a substantial number of patients with TG did not have positive C4d staining or DSA, indicating that a non-alloantibody-mediated process may be involved in the development of TG and called isolated TG. We compared histopathological features, the incidence of the development of EndoMT and the outcome of patients that was displaying TG with or without C4d expression and DSA.

Methods: Total 156 patients included in the study. Among 156 recipients 76 (48,7%) had isolated TG (Group 1), and 80 (51,3%) patients had CAMR (Group 2). The intensity of interstitial, glomerular and peritubular capillary (PTC) leukocyte and macrophage infiltration graded. To show the development of EndoMT, CD31, VEGF, paxillin, α-SMA, and Smad2 expression in glomeruli and PTCs studied. Tubulointerstitial TNF- α and TGF-β expression examined. Follow-up biopsies analyzed for the development of diffuse interstitial fibrosis (IF), and glomerulosclerosis (GS) (> 30% of glomeruli).

Results: Patients with isolated TG displayed a lower degree of leukocyte and macrophage infiltration in the interstitium, glomeruli, and PTCs compared to group 2 patients ($p<.001$). Both in glomeruli and PTCs, the expression of α-SMA, paxillin, and Smad2 were found higher, and the expression of VEGF and CD31 were found lower in group 2 than group 1 ($p<.001$), that means the development of EndoMT was found to be higher in group 2 than Group 1. The degree of both PTC and glomerular α-SMA, paxillin and Smad2 expression increases with the increasing degree of tubulointerstitial TGF-β and TNF-α expression ($p<.001$). The development of diffuse IF and GS during follow-up was found to be higher in group 2 than group 1 ($p<.001$). Overall the 3- and 5-year graft survival was 92%, and 82% respectively for Group 1 patients while it was 74%, and 45% respectively for Group 2 ($p<.001$).

Conclusion: Our results showed that compared to patients with CAMR, patients with isolated TG associated with a lesser degree of allograft inflammation, a lower incidence of EndoMT with the lower development of fibrosis and a better outcome. We suggested that endothelial activation during CAMR induces the EndoMT throughout glomeruli and PTCs. Thus, the EndoMT process plays an essential role in the fibrosis process through the TGF-β/Smad signaling pathways in allografts with an endothelial injury.

P23

Association of Proinflammatory Cytokine Interleukin-1 Gene Polymorphisms with Chronic Glomerulonephritis and End Stage Renal Disease in Renal Transplantation Patients

Farhod Khadjibaev, Visolat Sharipova, Malika Ruzibakieva, Dilshod Ergashev, Jahongir Sadikov, Pulat Sultanov

RRCEM, Tashkent, Uzbekistan

Chronic glomerulonephritis (CG), chronic renal failure (CRF) are the majority of instances to end stage renal disease (ESRD) which is the cause of renal replacement therapy. It was noted that patients with chronic kidney disease have a greater inflammatory response compared with healthy people. For now days, there is no doubts, that the huge role in pathogenesis of some multifactorial disease are playing host factors. It is well known the role of HLA class II genes and some SNPs of TNF-A in the pathogenesis of CG and ESRD [T. Qidwai, 2017; M.Nassar,2015]. Cytokines are soluble polypeptides acting as important humoral modulators in immunoregulation, hematopoiesis, and the inflammatory cascade. Many cytokines appear to be pleiotropic in their actions, with considerable overlap and redundancy between the function of individual cytokines. Patients with CKD have markedly elevated levels of cytokines. As is generally known, inflammation is partly regulated by the genes of the interleukin-1 (IL-1) gene cluster. We supposed that some single nucleotide polymorphisms (SNPs) in this gene cluster may be associated with the risk of development of CG and ESRD. We have studied polymorphisms in the IL-1 gene cluster in a group of patients with CG and ESRD (n=74) and healthy controls (n=66). These individuals were genotyped for 3 single nucleotide polymorphisms in the IL-1beta genes - IL-1beta-31T/C, -511T/C, 3953C/T SNPs. It was found out, that IL-1beta-31T and -511 T, TT are associated with CG and ESRD in Uzbeks. At the analysis of haplotype combinations two haplotypes of the IL-1 gene -31T/C, -511T/C, 3953C/T SNPs are associated with ESRD -31T/-511C/3953T and -31C/-511T/3953T. These findings are playing an important role in the study of associations between IL1 SNPs genotype and CG and ESRD in Uzbeks, who are going for the renal transplantation, and shows that polymorphisms in the IL-1 gene cluster affect the risk of development of ESRD. Research conclusions

Providing CG protection from the development and progression of renal injury remains a challenge for nephrologists. Inflammatory cytokines exert an important diversity of actions implicated in CG. The recognition of these molecules as significant pathogenic factors in this complication will provide new therapeutic targets. The development of new techniques for examining changes in the expression of pathogenic genes involved in inflammatory pathways as well as better ability to assess interindividual genetic variability will undoubtedly uncover important information regarding the pathogenic mechanisms of CG.

P24

Genetic Markers of New-Onset Diabetes After Renal Transplantation

Abdukhakim Khadjibaev, Farhod Khadjibaev, Visolat Sharipova, Malika Ruzibakieva, Pulat Sultanov, Dilshod Ergashev

RRCEM, Tashkent, Uzbekistan

Introduction: New-onset diabetes after transplantation (NODAT) is a frequent metabolic complication of kidney transplantation, and associated with increased morbidity and mortality [Langsford D, 2015]. However, due to the absence of a standard definition of NODAT, it has been difficult to determine a reliable incidence rate. Recent studies using these criteria found incidences of NODAT to be 7%-30% in the first year after transplant [Patel S, 2016]. The non-modifiable factors include age, race/ethnicity, family history of DM, male recipient sex, the presence of certain human leukocyte antigens (HLAs; such as HLA A30, B27 and B42), increased HLA mismatches, donor-recipient mismatch, deceased donor kidney, male donor sex and history of acute rejection[Pham PT,2011]. In this study we decided to analyze if there is any genetic links with NODAT in patients after renal transplantation.

Methods: We compared genetic distributions of HLA class I A and B, HLA class II DRB1* and DQB1* alleles in our patients after renal transplantation with the steady increase of glucose level (N=5), with control group of patients, after transplantation, being on analogical immunosuppressive medications, but without increasing of glucose level (N=35).

All patients received induction therapy, consisting of either basiliximab (an interleukin-2 receptor monoclonal antibody. Prior to the transplant, all patients received tacrolimus at 0.2 mg/kg. For Protocol A, the patient was administered 20 mg basiliximab pretransplantation and at 4 d posttransplantation; these patients also received tacrolimus at 0.075 mg/kg every 12 h and mycophenolate mofetil (1500 mg pretransplantation, followed by 1000 mg every 12 h for 1 wk posttransplantation and then 500 mg every 12 h.

Results: Recent studies using the WHO/ADA criteria reported that 7%-30% of nondiabetic kidney transplant recipients develop NODAT in the first year after transplant. In our study, NODAT was diagnosed in 5 patients (12.5%), with an incidence in the first year after transplant. Therefore, our findings are in agreement with previous studies. NODAT occurrence reportedly peaks in the first 3-6 mo post transplant [Mourad G, 2018]. Our study have also shown that the incidence is higher in recipients with HLA A29 (19), A30 (19) which was identified in 30%, B35 (60%), B15 (10%), B51 (10%) and all of this alleles are situated in 5CREG. Also, more frequent in group with NODAT were identified HLA DRB1*01, *04, *15, DQB1*0602-8.

Conclusion: Very important role in the prognosis of NODAT development are playing HLA markers. It is necessary to take into account these markers, especially to conduct periodical blood glucose screening for patients with the presence of listed below markers of predisposition in a genotype.

P25

Parathyroidectomy after Kidney Transplantation: A Single-Center Experience

Nazlı Gülsoy Kırnap[1], Mahir Kırnap[2], Mehmet Haberal[2]

Departments of [1]Endocrinology and [2]Transplantation, Baskent University, Ankara, Turkey

Introduction: Even after successful kidney transplantation, 10% to 50% of kidney transplant recipients have persistent hyperparathyroidism. Parathyroidectomy (PTX) has been reported to be associated with deterioration of renal function and reduced graft survival. Some investigators maintain that a parathyroidectomy (PTX) performed for tertiary hyperparathyroidism may potentially cause graft malfunction or even loss of the transplanted kidney after the operation. The goal of this study was to determine if parathyroidectomy affects transplanted kidney function.

Methods: From November 1975 to May 2019, we performed 3008 Kidney Transplantation procedures at two different centers by the same transplantation team. The study population consisted of 1054 patients followed between January 2001 and May 2019 of 44 renal graft recipients who underwent operation due to tertiary hyperparathyroidism. Thirty-five subtotal parathyroidectomy and 9 minimally invasive parathyroidectomy were performed. The estimated glomerular filtration rate (eGFR) was calculated retrospectively at 1, 3, 6, 12, and 36 months after PTX; these findings were compared with preoperative values. The cumulative graft survival rate in the postoperative period was assessed.

Results: In the follow-up period, 3 of 484 patients returned to hemodialysis (after 17, 24, and 54 months after PTX). Cumulative graft survival rate after PTX was 98.0% after 6 months, 96% after 12 months, and 93% after 2 and 3 years. The mean preoperative eGFR was 52 _ 17.15 mL/min/1.73 m2, and the median was 48.28 mL/min/1.73 m2. the subtotal parathyroidectomy group, eGFR was significantly lower ($P < .001$) only first month. In patients who underwent subtotal or minimally invasive parathyroidectomy, only the first month eGFR was significantly lower than the other patients. There were no differences between preoperative and postoperative eGFR values in the all follow-up periods. In the more selective, less than subtotal parathyroidectomy group, the decrease in eGFR values was nonsignificant compared with preoperative findings in the early postoperative period as well as in all follow-up periods.

Conclusion: In HPT after renal transplantation, PTX decreases GFR level at 1 month but does not cause deterioration of GFR level in the long term. For this reason, PTX is a safe procedure for HPT after renal transplantation

P26

Treatment of Metabolic Syndrome after Kidney Transplant

ON Rzhevskaya[1], NV Zagorodnikova[1], KE Lazareva[1], AV Pinchuk[1], RN Akalaev[2], HA Khashimov[3], AU Rahimov[3], HE Anvarov[2]

[1]SRI SP named after N.V. Sklifosovsky, Moscow, Russia; [2]Republican Scientific Center for Emergency Medicine; and [3]Tashkent Institute for Advanced Medical Studies, Tashkent, Uzbekistan

Introduction: Kidney transplantation in patients with concomitant metabolic syndrome (MS) is associated with a number of additional difficulties at all stages of transplantation care, including after surgery. Our purpose was to study the nature of metabolic disorders and the possibility of their correction after a kidney transplant in the postoperative period in patients in the terminal stage of chronic kidney disease and concomitant MS before surgery.

Methods: BMI, indicators of lipid, carbohydrate and purine metabolism were determined. Group I included 27 recipients who were given complex therapy in the early postoperative period. Group II included 20 patients with manifestations of MS similar to the first group, the nature of the underlying disease, gender, age, and even length of stay on renal replacement therapy, but to which complex therapy was not carried out (exclusively diet correction was used, and if necessary, insulin therapy was prescribed). The duration of monitoring the state of recipients after ATPP was from 8 to 12 months. The timing of renal replacement therapy for recipients ranged from 6.5 to 22 months. All patients in our clinic from the 1st day after ATP received a 3-component immunosuppressive therapy regimen (tacrolimus, mycophenolates, and prednisone).

Results: MS in all patients of group I: obesity I, degree 6, II degree 18, III degree 3. Accordingly, in the II group with obesity I degree 9 recipients, II degree - seven and III degree - four patients. Immediately before ATP in 70.5% of patients of group I, glucose tolerance disorder (NTG) was diagnosed, in the rest - non-insulin-consuming variant of diabetes mellitus. In group II, NTG was detected in 80%, in the rest, non-insulin-consuming variant of diabetes mellitus.

Conclusion: Studies have shown that a successful kidney transplant in patients with chronic renal disease in the initial stage, combined with MS, allows you to change the quality of life. After 8–11 months after surgery, with satisfactory renal transplant function, only five showed a decrease in dry weight, and more than 75% showed signs of obesity of the second degree. All of these patients retained dyslipidemia, arterial hypertension, and 80% had impaired glucose tolerance. The rest developed steroid insulin-demanding diabetes.

P27

Importance of Hypomagnesemia on New Onset Diabetes Mellitus in Pediatric Renal Transplantation

Esra Baskın[1], Özlem Aksoy[1], Kaan Gülleroğlu[1], Aydıncan Akdur[2], Gökhan Moray[2], Mehmet Haberal[2]

Departments of [1]Pediatric Nephrology, and [2]Transplantation, Baskent University, Ankara, Turkey

Introduction: Hypomagnesemia is considered as an independent risk factor for new-onset diabetes mellitus after kidney transplantation. New-onset diabetes mellitus is an important comorbidity associated with allograft failure. The objective of this study is to show a correlation between hypomagnesemia and post-transplant diabetes mellitus prevalence.

Methods: We retrospectively evaluated 184 pediatric renal transplant recipients who underwent their first renal transplant. A patient who had Type 1 Diabetes Mellitus prior to transplantation was excluded from the analysis. Hypomagnesemia was defined as having serum magnesium levels lower than 1,7 mg/dl. Diabetes was defined according to the American Diabetes Association Criteria. The serum magnesium and glucose levels at first month after transplantation were recorded.

Results: A total of 183 patients' records were evaluated. A-hundred and one (55%) were male, 82 (45%) were female patients. Minimum and maximum transplantation ages were 21 and 259 months respectively, with a mean of 157 months. New-onset diabetes mellitus was diagnosed in six (3,3%) patients; minimum and maximum days of diagnoses after transplantation were one and 90 days respectively, with a mean of 37 days. Hypomagnesemia was defined in 50% (60/119) of the patients who were tested for serum magnesium level at first month of transplantation. Mean glucose levels were higher in hypomagnesemia group than patients without hypomagnesemia, 108,5 mg/dl ve 91,49 mg/dl, respectively (p=0,052) Significant negative correlation was observed between serum magnesium and glucose levels (r: -0,26) (p<0,05).

Conclusion: This study shows that hypomagnesemia is a common problem in pediatric renal transplantation. The relationship between serum magnesium and glucose levels suggests the role of hypomagnesemia in the development of new onset diabetes mellitus after transplantation. Comprehensive studies are needed to support this association.

P28

Recurrence and Outcomes of Complement Related Renal Disease after Pediatric Renal Transplantation

Kaan Gülleroğlu[1], Esra Baskın[1], Handan Özdemir[2], Gökhan Moray[3], Mehmet Haberal[3]

Departments of [1]Pediatric Nephrology, [2]Pathology, and [3]Transplantation, and Baskent University, Ankara, Turkey

Introduction: Complement dysregulation is related with different glomerular pathologies (atypical hemolytic uremic syndrome, C3 glomerulopathy, dense deposit disease). These patients have high recurrence risk after transplantation but trough effective and therapeutic interventions, renal transplantation is an opinion in these cases. We present 2 patients with renal disease related to complement dysregulation and their outcomes after renal transplant.

Methods: We retrospectively evaluated data files of two patients. Demographics of the patients, medications, acute rejection episodes and graft loss were recorded.

Results: Two boys with chronic renal disease related to complement dysregulation are presented. Patient with atypical hemolytic uremic syndrome was treated with eculizumab before renal transplantation and eculizumab therapy was also continued after transplantation as preventive therapy. Eculizumab therapy was stopped at 2nd year of transplant. He had not any acute rejection episode and at the 4th year of the transplantation his serum creatinine level was 0.87 mg/dl. Other patient with chronic renal disease related to membranoprolipherative glomerulonephritis was not responsive to eculizumab before renal transplantation. After 18 months dialysis programme he had received renal transplant from his brother. At the 4th month of transplantation, C3 glomerulopathy recurrence was demonstrated with biopsy and serum creatinine level was 1.96 mg/dl at this time. Eculizumab was started as a rescue therapy. This patient had not any acute rejection episode or disease recurrence after eculizumab therapy and at the 4th year of the transplantation his serum creatinine level was 2.07 mg/dl.

Conclusion: Eculizumab is an effective and preventive therapy after renal transplantation in patients with complement dysregulation. However more studies should be done in order to understand the long-term efficacy and safety of eculizumab after renal transplantation.

P29

Effect of Liver Transplantation on Neurological Manifestations and Brain Magnetic Resonance Imaging Findings in Wilson Disease

Ebru H. Ayvazoğlu Soy[1], Ruhsen Öcal[2], Sibel Benli[2], Fuldem Dönmez[3], Muhteşem Ağıldere[3], Serkan Öcal[4], Mehmet Haberal[1]

Departments of [1]Transplantation, [2]Neurology, [3]Radiology, and [4]Gastroenterology, Baskent University, Ankara, Turkey

Introduction: Wilson disease (WD) is an autosomal recessive disorder of copper metabolism, After liver involvement, neurologic symptoms appear in 2-5 years, usually as movement disorders. Liver transplantation (LT) is the treatment choice of WD in case of liver failure and when the patient does not respond to pharmacological treatment. LT is known to be effective in evolving the life quality of especially neurologic WD patients. In our study we evaluated WD patients for the differences in preoperative and postoperative neurological and radiological findings following LT.

Methods: Since 1988, we performed 629 LT in our centers. 53 patients had LT for WD. Here in this study, we included 15 adult WD patients that we achieved to have both pre LT and post LT neurological and radiological data. All these patients were evaluated before and after LT by the same neurologist and radiologist. The tremor is scored by the glass scale test. Radiological evaluation is performed by cranial magnetic resonance imaging (MRI).

Results: We procured the pre LT and post LT neurological and radiological data of 15 WD patients. In post LT controls, significant recovery in cranial MRI findings and neurological manifestations were seen in 11 patients. In post LT controls, no significant recovery in cranial MRI findings were seen in 3 patients, but neurological manifestations were regressed in all of them. Newly onset tremor was seen in 1 patient after LT. However there was a significant recovery in cranial MRI findings of this patient and so this was thought to be due to side effects immunosuppressive therapy

Conclusion: Neurological recovery and radiological regression can be achieved by LT, and as such is effective in improving the quality of life of WD patients. Our study has one of the largest series about post LT recovery of WD.

P30

The Influence of Donor Older Age on Liver Transplant Outcomes

Asude Ayhan, Zeynep Ersoy, Deniz Sivrioğlu, Adnan Torgay, Gökhan Moray, Mehmet Haberal

Departments of [1]Anesthesiology and [2]Transplantation, Baskent University, Ankara, Turkey

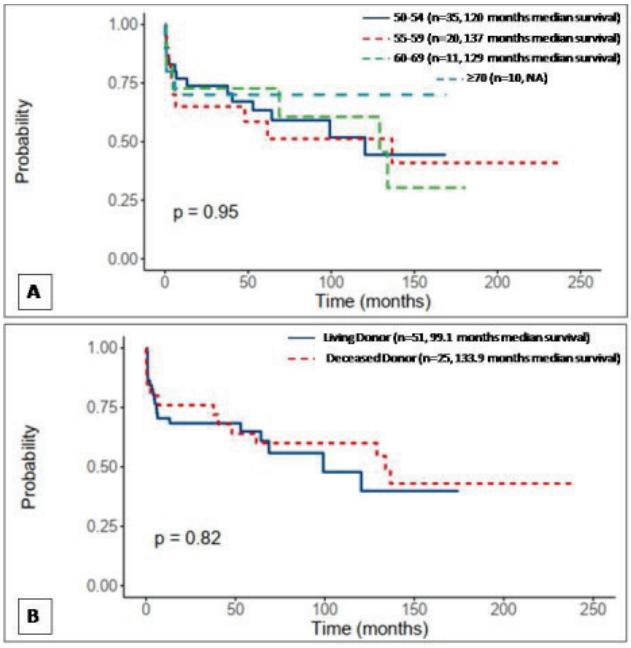
Introduction: The use of older donors has increased significantly over the past 2 decades. The donor age may have undesirable effects on graft survival and mortality. In contrast, limited evidence supports the use of older donors with excellent outcomes.

The aim of this study was to investigate the role of older age in liver transplantation (LT) outcomes.

Methods: A retrospective review of a prospectively collected data from a single center, between December 1988 and April 2019, was performed. Patients were stratified by donor age 50 years or more, and living versus deceased donor. Donors were further divided into four groups according to age: 50-54 years old, 55-59 years old, 60-69 years old, and ≥70 years old. Overall survival was assessed using the Kaplan-Meier method. R package software was used for statistical analysis.

Results: A total of 573 LTs were performed during the study period and 76 of them had donors with 50 years or above [(50-54 years, n=35), (55-59 years, n=20), (60-69 years, n=11), (≥70 years old, n=10)]. The mean donor age was 58.0 ± 8.26 years (range: 50-83). There were 51 living and 25 deceased donor LTs. No significant differences in survival between age groups and between donor types was found (Figure 1A-B).

Conclusion: This study demonstrates that donors' age may not have a significant effect on recipients' survival in both deceased and living donor LT. This information may be important for expansion of the donor pool while dealing with the shortage of organs.



P31

Usefulness of Unenhanced CT for Assessment of Macrovesicular Hepatic Steatosis in Living Liver Donors

Kemal Murat Haberal[1], Mehmet Coşkun[2], Asuman Nihan Haberal[2]

Departments of [1]Radiology and [2]Pathology, Baskent University, Ankara, Turkey

Introduction: Our purpose was to retrospectively determine the diagnostic performance of unenhanced computed tomography (CT) in the assessment of macrovesicular steatosis in potential donors for living donor liver transplantation by using biopsy as a reference standard.

Methods: This retrospective study was institutional review board approved, and all subjects had provided written informed consent. A total of 181 (mean age 35.9±9.3) candidates underwent unenhanced CT and subsequent needle biopsy (mean 12.74 days) in the right hepatic lobe (at least two samples per patient). Histologic degree of macrovesicular steatosis was determined. Two liver attenuation indices were derived: spleen to liver attenuation ratio (CTS/L) and blood-free hepatic parenchymal attenuation (CTLP). A ten year experienced radiologist assessed steatosis of the right hepatic lobe by using two methods: a four-point visual grading system that used attenuation comparison between the liver and hepatic vessels and the liver attenuation index calculated with region of interest measurements of hepatic attenuation. Accuracy in the diagnosis of macrovesicular steatosis was compared by statistical analysis.

Results: The study population was divided into three groups according to histologic steatosis grade. Group 1 consists of 157 candidates with %0-5 steatosis, group 2 11 with %6-15 and group 3 13 with 16-100, respectively. Mean liver attenuation was 58.93 ± 5.07 (SD) HU for group 1, 47.8 ± 4.17 (SD) HU for group 2 and 39.11 ± 6.5 (SD) HU for group 3. The difference between liver attenuation values of each group were statistically different with one way Anova test (F=107,307, p<0.01). For CT attenuation criteria that include milder degrees of steatosis, prevalence increased to as high as 168/181 for a spleen to liver attenuation ratio of ≤ 1.1. For visual grading, correlation coefficient for CT was 0.959.

Conclusion: Assessment of liver attenuation by use of unenhanced CT represents an objective and noninvasive means for detection of hepatic steatosis. This can provide preventing unnecessary biopsies.

P32

MELD-XI Score and Coronary Artery Disease Prevalence and Extent among In-Hospital Patients with End-Stage Liver Failure Awaiting Transplant

Suzan Keskin[1], Orçun Çiftci[1], Gökhan Moray[2], Haldun Müderrisoğlu[1], Mehmet Haberal[2]

Departments of [1]Cardiology and [2]Transplantation, Baskent University, Ankara, Turkey

Introduction: Liver transplant is a life-saving procedure for a variety of end-stage liver diseases. Cardiovascular disorders are among the leading cause of death among end-stage liver disease and those undergoing liver transplant procedure. MELD-XI score is a newly developed score for mortality prediction in end-stage liver failure. In this study we aimed to investigatre the relationship between MELD-XI score, total in-hospital mortality, and coronary artery severity and extent among patients with end-stage liver failure awating transplant.

Methods: We retrospectively reviewed the medical data of 121 patients with end-stage liver failure awating transplant who underwent coronary angiography as part of pre-transplant cardiac evaluation. We determined the rate of coronary artery disease, Gensini score indicating the extent of coronary artery disease on coronary angiography, MELD-XI score, and in-hospital mortality rate in the study population. We compared MELD-XI score in deceased and surviving patients and corralated it with mortality and coronary artery severity.

Results: The mean age of the study population was 59.6 ±10.2; 79 (65.3%) of the study population was male. A total of 28 (23.1%) patients had coronary artery disease, and 13 (10.7%) had severe coronary artery disease on coronary angiography. A total of 23 (19%) patients died. Gensini score and MELD-XI scores were significantly higher in the deceased patients ($p<0.05$). MELD-XI was a significant independent predictor of death among patients awaiting liver transplant.

Conclusion: MELD-XI score independently predicts in-hospital death among patients undergoing liver transplant, who also have an increased prevalence and extent of coronary artery disease.

P33

Prevalence of Infections in Infants within First Six Months of Liver Transplantation

Oya Balcı Sezer[1], Zeren Barış[1], Zafer Ecevit[2], Figen Özçay[1], Mehmet Haberal[3]

Departments of [1]Pediatric Gastroenterology, [2]Pediatric Infection, and [3]Transplantation, Baskent University, Ankara, Turkey

Introduction: Infections a major cause of morbidity and mortality after pediatric liver transplantation especially in young children.

Methods: We conducted a retrospective study at Baskent University in Turkey between March 2005 to September 2018. Cases of death within the first 6 months were excluded. The standard immunosuppressive regimen after liver transplantation consisted of tacrolimus, mycophenolate mofetil and steroids. Ampicillin and cefotaxime were administrated intravenously and continued 72 hours after surgery. Prophylactic regimen was consisted of oral trimetoprim-sulfomethoxazol, flucanazole and valgancyclovir. We evaluated causative organisms in bloodstream, subclavian catheter, urine and intra abdominal drainage fluid cultures. We also evaluated EBV and CMV infections by polymerase chain reaction in all recipients.

Results: Thirty-four cases whose median age was 8 months (4-12 months) at the time of liver transplantation were evaluated. 26 of 34 (76%) cases had biliary atresia. There were 26 bacteria isolated from the blood cultures (19/34; 55%), 9 bacteria (12/34, 35%) isolated from the subclavian catheter cultures, 5 bacteria (12/34, 35%) isolated from the urine and 9 bacteria (16/34, 47%) and 1 fungus (2/34, 6%) isolated from the intraabdominal drainage fluid cultures within the first six months of liver transplantation. Klebsiella pneumonia was the most common isolated bacteria from bloodstream and abdominal catheters and urine cultures. Staphylococcus epidermidis was the most common isolated bacteria from subclavian catheter cultures. Only one recipient had CMV infection during this period.

Conclusion: At least one pathogenic organism was isolated from the cultures of 27 out of 34 patients within first six months of liver transplantation. The most common infections were bloodstream and intraabdominal infections due to Klebsiella pneumonia.

P34

Efficacy of Levatiracetam for Epilepsies in Liver Transplant Children with PRES

Taner Sezer[1], Oya Balcı Sezer[1], Figen Özçay[2], Aydıncan Akdur[2], Adnan Torgay[3], Mehmet Haberal[2]

Departments of [1]Pediatric Gastroenterology, [2]Transplantation, and [3]Anesthesiology, Baskent University, Ankara, Turkey

Introduction: Levetiracetam is prescribed for a broad spectrum of seizure types but does not have a specific indication for epilepsy in children with solid organ transplantation. Posterior reversible encephalopathy syndrome (PRES) is a neurological syndrome characterized with lethargy, seizures, visual disturbances, and radiologic findings of edema in the posterior regions of the cerebral hemispheres. Our aim was to investigate the efficacy and tolerability of levetiracetam in liver transplant children with PRES and epilepsy.

Methods: We reviewed the charts of patients treated for epilepsies due to PRES after liver transplant at our pediatric neurology clinic between January 2010 and March 2019.

Results: Among 132 children who were undergone liver transplantation between 2010 and 2019 in Baskent University, 10 patients (6 males, 4 females,) who were diagnosed with PRES and epilepsy, ranging in age from 7 to 19 years were included in the study. All patients received levatiracaetam at a dosage of 20 mg/kg/day. After a mean follow-up of 28.9 months (range 24 to 40 months), 10 patients attained complete seizure freedom. One patient who might have an underlying neurodegenerative disease (hemophagocytic lymphohystiocytosis) other than PRES continued to had seizures under levetiracetam treatment. One patient had a mild adverse reaction (irritability) due to levetiracetam that did not need to discontinue the drug.

Conclusion: Our findings suggest that levetiracetam has a favorable efficacy for epilepsy due to PRES in liver transplant children with tolerable adverse effects.

P35

15 Years Follow-Up of a Child with Multi-Drug Resistant De-Novo Hepatitis B Infection after Liver Transplant

Oya Balcı Sezer[1], Figen Özçay[1], Ebru H. Ayvazoğlu Soy[2], Gökhan Moray[2], Mehmet Haberal[2]

Departments of [1]Pediatric Gastroenterology and [2]Transplantation, Baskent University, Ankara, Turkey

Introduction: De-novo hepatitis B may develop in children following liver transplantation. We report our experience in the treatment of a child with de novo hepatitis B.

Case Report: A 16-year-old male patient who had a liver transplant from her mother at the age of 13 months due to biliary atresia was diagnosed with de-novo hepatitis B 2 years after LT. Preop HBsAg negative and AntiHBs titre was 25 IU/ml after 2 doses of hepatitis B vaccine. HBV DNA was determined as 4.2×10^9 copies/ml, AST/ALT were normal at the time of diagnosis. His donor was HBsAg(-), AntiHBs(+), antiHBc IgG(-). His Anti HDV was negative, viral genotype was D. He was given lamivudin for 6 years (3 mg/kg/day). At the age of 9 years, lamuvidine + adefovir dipivoksil treatment was started (10 mg/day) because of lamivudine resistance. The patient's liver biopsy showed a necroinflammatory score of 7/18 and fibrosis score of 3/6. One year later also a resistance to adefovir dipivoksil developed. Entecavir treatment (0,5 mg/ day p.o) was given for 2 years. He was non-compliant to the treatment, and his transaminases levels increased and HBV DNA became positive (3.63×10^8 copies/ml), a liver biopsy was done again at the age of 15 years. Necroinflammatory score was reported as 8/18, fibrosis score was 5/6 in liver biopsy indicating severe fibrosis. Tenofovir treatment (1 x 245 mg/day p.o) was initiated. The patient used tenofovir for 1 year and his HBsAg and HBe Ag are positive positive, anti-HBs, anti-HBe and HBV DNA are negative. Transaminases values are normal.

Conclusion: Tenofovir therapy is efficacious in treating HBV-positive adult organ transplant patients. There is limited experience with tenofovir in children with de novo hepatitis B infection after liver transplantation. We present a child who successfully treated with tenofovir after development of multi drug anti-viral resistance during treatment of de novo hepatitis B.

P36

Sirolimus and Metformin Synergistically Inhibits Colon Cancer in Vitro and in Vivo

Nadiar Mussin[1], Aliya Mussina[2], Seung Cheol Oh[3], Kwang-Woong Lee[3], Min Young Park[3], Sooin Seo[3], Nam-Joon Yi[3], Hyeyoung Kim[3], Kyung Chul Yoon[3], Sung-Woo Ahn[3], Hyo-Sin Kim[3], Suk Kyun Hong[3], Dong Kyu Oh[3] and Kyung-Suk Suh[3]

[1]Aktobe Medical Center, Aktobe city, Republic of Kazakhstan, [2]"Medical University Astana" JSC, Astana Republic of Kazakhstan; [3]Seoul National University Hospital, Seoul, South Korea

Introduction: Colon cancer has been reported as one of the frequent de novo cancer in Asia. However, there is no optimal treatment strategy for de novo colon cancer after LT. The effect of various immunosuppressants (IS) and metformin were estimated to provide the theoretical background of optimal therapeutic strategy for de novo colon cancer.

Methods: Three colon cancer cell lines (HT29, SW620, and HCT116) were used in an in vitrostudy. Furthermore, in an in vivo study, colon cancer models induced by subcutaneous injection of HT29 in BALB/c-nude mice. Then, the following treatments were done in both in vitro and in vivo studies, sirolimus (S), tacrolimus (T), cyclosporin A (CsA), metformin (M), metformin/sirolimus (MetS), metformin/tacrolimus (MetT), and metformin/cyclosporin A (Met CsA). Then, 3-(4 5-Dimethylthiazol-2-yl)-2 5-diphenyltetrazolium bromide (MTT) assay was performed for analysis of cell viability. Apoptosis proteins, EMT proteins, and mTOR pathway proteins were evaluated by Western blot analyses. Tumor volumes were measured for 4 weeks after inoculation.

Results: MTT-assay revealed significant cell viability inhibition in all three colon cancer cell lines in groups of S, M, and Met/S. Of note, group Met/S showed synergistic effect compare to M or S group in in vitro study. Western blot analysis showed significantly low levels of all investigated proteins in groups of S and Met/S in both in vitro and in vivo experiment. Tumor growth was significantly inhibited only in the Met/S group.

Conclusion: Combination of metformin and sirolimus had the most potent inhibition in the evaluated colon cancer cell lines in vitro and in vivo. This finding might have application for de novo colon cancer.

P37

Evaluation of Severity of Cardiac Allograft Vasculopathy with Coronary Artery Disease Score: Gensini Score

Emir Karaçağlar[1], Arzu Neslihan Akgün[1], İbrahim Haldun Müderrisoğlu[1], Mehmet Haberal [2]

Departments of [1]Cardiology and [2]Transplantation, Baskent University, Ankara, Turkey

Introduction: Post-transplant cardiac allograft vasculopathy (CAV) is one of the major handicaps for long-term survival after heart transplantation (1). Cardiac transplant recipients do not feel angina pectoris as a result of denervation of the transplanted heart graft. Therefore, early diagnosis is difficult. The pathological features of CAV different from coronary artery disease (CAD) (2).

The Gensini score (GS), one of the most widely used scoring systems for determining of the severity of coronary artery disease. It is an objective, reproducible and simple method for assessing CAD severity by angiography. Although widely used in the evaluation of natural coronary atherosclerosis, there is no data on the Gensini score in heart transplant recipients (3).

We evaluated CAV by using CAD scoring system: the Gensini score. We performed this study to evaluate the severity and progression of coronary allograft vasculopathy which is one of the most important factors affecting the survey after heart transplantation.

Methods: We analyzed the data of 105 heart transplant patients between February 2004 and April 2018 retrospectively. We investigated the immunosuppressive therapies which used by patients. The Gensini score was calculated to determined a severity score to each coronary stenosis according to the degree of luminal narrowing and location.

Results: A total of 17 (26.9 %) heart transplant recipients were received the diagnosis of CAV. The most used immunosuppressive therapy consisted of tacrolimus (TAC), prednisolone and mycophenolate mofetil (MMF) as a standard therapy. CAV was observed in 21 patients (33.3%) on coronary angiography. 42 patients (66.6%) were graded as ISHLT-CAV 0 (no detectable angiographic lesions) according to ISHLT. The Gensini score of 21 patients were calculated zero. The mean score of Gensini was found 34.8±26. According to Gensini score (GS), among the 21 CAV patients, 8 of them (38%) were mild (GS ≤ 10), 6 (28.5%) were moderate (GS >10 and ≤ 40), and 7 (33.3%) were severe CAV (GS >40) patients. Our study demonstrates that angiographic CAD burden scoring system Gensini was a strongly correlated with CAV severity and therefore we may be used to provide valid assessments of CAV burden for use in clinical practice.

Conclusion: Cardiac transplantation is not a definitive therapy and one of the most common complications is CAV. In this study, we focused on usefulness of the Gensini score for evaluating CAV severity. More research is needed to identify, assess, and treat CAV for a successful long-term survival of a heart transplant patient.

References

1. Baris N, Sipahi I, Kapadia SR, et al. (2007) Coronary angiography for follow-up of heart transplant recipients: insights from TIMI frame count and TIMI myocardial perfusion grade. J Heart Lung Transplant 26:593–597.
2. Syeda B, Roedler S, Schukro C, et al. Transplant coronary artery disease: incidence, progression and interventional revascularization. Int J Cardiol 2005; 104:269–274.
3. Gensini GG (1983) A more meaningful scoring system for determining the severity of coronary heart disease. Am J Cardiol 51: 606.

P38

Can it be the Solution? Using Marginal Donors in Heart Transplatation

Deniz Sarp Beyazpınar, Anar Aliyev, Özgür Ersoy, Bahadır Gültekin, Atilla Sezgin

Department of Cardiovascular Surgery, Başkent University, Ankara, Turkey

Introduction: Heart failure is one of the greatest health problems in the world. In the beginning stage of heart failure, medical treatment might be enough. But heart failure is a progressive problem. At the last stage of heart failure, medical therapy would not be enough to save the patient. Because of that, mechanical support systems are developed. For now, we are using mechanical support systems for bridging to transplantation, recovery and destination therapy. The main problem in heart transplantation is the number of donors. In Turkey, approximately 100-150 heart transplants are performed per year but in the meantime, thousands of new patients are added to the heart failure list. Most of the patients cannot have the chance to have heart transplants. Because of this reason we intended to use marginal donors for heart transplantation.

Methods: Between February 2002 and March 2019, 131 heart transplants have been performed in our clinic. We retrospectively evaluated all of them. All recipient and donor BMI ratios, cold ischemia times, aortic cross-clamping times, ages and reasons of brain deaths were recorded. By that way, we determine the marginal donor and recipient, and we compare the mortality of both groups.

Results: Primary allograft failure is responsible for 40% of immediate deaths after heart transplants: therefore; marginal donor selection must be more rigorous to not increase the surgical risk. The main donor risk factors with the respective evidence levels are donor age above 50 years, weight-mismatch between donor and recipient and ischemia time above 4 hours. Factors that impact recipient mortality are: age over 55 years (%50) and ischemic time above 4 hours (%28). While performing transplants between ideal donors to the ideal recipient, the mortality of this operation will be %5. However, because of the limited number of donors, transplantation surgeons are forced to use marginal donors and recipient. For that reason, the mortality of heart transplantation increases.

Conclusion: Because of limited donors, heart transplantation teams are forcing conditions for saving their patient, this might increase the risk of the operation. To solve this problem we need to make more people encourage organ donation. On the other hand, mechanical support systems are developing every day. In the future, they might take place of heart transplantation.

P39

Neurologic Complications in Heart Transplant Recipients Admitted to Intensive Care Unit

Helin Şahintürk[1], Beyza Meltem Yurtsever[1], Özgür Ersoy[2], Seda Kibaroğlu[3], Pınar Zeyneloğlu[2]

Departments of [1]Anesthesiology, [2]Cardiovascular Surgery, and [3]Neurology, Başkent University, Ankara, Turkey

Introduction: Heart transplantation is the main treatment method in patients with end-stage heart failure in whom all treatment modalities are insufficient. Neurologic complications after transplantation surgery are major causes of morbidity and the incidence of those neurologic complications among heart transplant recipients varies from 30% to 70%.

In our study, we aimed to determine the incidence and etiologies of neurologic complications among patients admitted to intensive care unit after heart transplantation.

Methods: In this retrospective cohort study, the medical records of all patients undergoing cardiac transplantation from February 2003 to February 2019 were reviewed. Among those, patients admitted to ICU due to neurologic complications during the early and late postoperative period were evaluated. Patients were divided into 2 groups based on the development of neurologic complications to compare demographic and other characteristics.

Results: A total of 128 heart transplant recipients were analyzed. The mean age of the cohort was 33.4±18.1 years and 42 (32.8%) were female. Out of those 128 heart transplant recipients, 54 (42.2%) developed neurologic complications. Twenty seven patients (50%) were admitted to ICU in the first month, 17 patients (31.5%) after 6 months and 10 patients (18.5%) between 1-6 months after transplantation due to neurologic complications. The most common diagnosis was PRES (n=11, 20%). The other diagnosis were seizures (n=9, 16.4%), calcineurin inhibitors toxicity (n=8, 14.5%), femoral neuropathy (n=6, 10.9%), stroke (n=5, 9.1%), metabolic encephalopathy (n=5, 9.1%), intracranial hemorrhage (n=4, 7.3%), myophathy (n=3, 5.5%), uremic encephalophaty (n=2, 3.6%), pherinic nerve damage (n=1, 1.8%) and cerebral abscess (n=1, 1.8%). Bothgroups were similar in terms of demographics, etiologies of cardiac failure, co-existing disease, anticoagulant and immunsupressive usage. Requirement for mechanical ventilation, renal replacement therapy and incidence of acute kidney injury were similar in two groups (p>0.05). The incidence of sepsis was significantly higher in patients with neurologic complications (25.9%, n=14 vs 5.4%, n=4; p=0.001). The mean length of hospital stay was significantly higher in patients with neurologic complications (16.7±16.9 vs 9.1±12.7 days, p=0.01) but the mean length of ICU stay was similar in both groups (10.0 ±13.4 vs 6.8±11.3 days, p=0.1). Hospital mortality (43.6% vs 42.6%, p=1.0) and 30-day mortality (40.5% vs 25.9%, p=0.09) were not different in two groups.

Conclusion: Our results suggest that neurologic complications develop in 42.2% of heart transplant recipients admitted to ICU and half of them are seen in the first month postoperatively. PRES was the most frequent (20%) neurologic complication. The mean length of hospital stay and incidence of sepsis were significantly higher in heart transplant recipients who developed neurologic complications.

P40

Detection of Tissue Resident Donor-Specific Antibodies in Cardiac Allograft Biopsy by LUMINEX in Heart Transplant Patients

Bilkay Baştürk[1], Atila Sezgin[2], Elif Sade[3], B. Handan Özdemir[4], Ayşen Terzioğlu[4], Bircan Kantaroğlu[1], Mehmet Haberal[5]

Departments of [1]Immunology, [2]Cardiovascular Surgery, [3]Cardiology, [4]Pathology, and [5]Transplantation, Başkent University, Ankara, Turkey

Introduction: Allosensitization is a major problem of heart transplantation (HT). This study aimed to find out; first if there was a correlation between serum DSA and tissue resident DSA, second to understand the diagnostic and prognostic value of the tissue resident DSA.

Methods: Total 12 patients evaluated for PRA screening. Recipients of PRA >25% accepted, as asensitized patient. The Luminex assay used for detection and typing of specific HLA antibodies both serum and protocol allograft biopsies. Allograft biopsies prepared for the evaluation of tissue resident DSA by using Dounce homogenizer. Serum and the biopsies LSA results compared each other. This study was approved by Baskent University Intuitional Review Board and Ethics Committee (Project No: KA17/243) and supported by Baskent University research Found

Results: We didn't found any correlation between serum and tissue samples in regards to PRA results. When we studied solid phase assay (LUMINEX single antigen) in one patient both in serum and tissue samples PRA screening are negative, 7 patients have negative results with serum but positive with allograft biopsy by LSA. Serum LSA results are not correlated with clinical findings. In 1 patient that sensitized before HT, after transplantation we identified DSA (HLA*A2:01) both in serum and allograft biopsies. In the assessment of C1q, HLA*A2:01 detected both in the serum and allograft biopsies in 30 days after Transplant. The pathological diagnosis of allograft biopsy that used in the DSA assessment was also sign out as acute antibody-mediated rejection (AMR). Following plasmapheresis + IVIG +Rituximab therapy for this recipient, the value of serum anti HLA antibodies decreases. After desensitization therapy the presence of allograft DSA disappeared. DSA resident in graft tissue is the first to disappear in sequential studies and this was in parallel with the clinical improvement. However the reduction in serum DSA was correlated with the pathological findings.

Conclusion: This is the first report demonstrating tissue resident DSA by LUMINEX single antigen, albeit in one patient, along with response to treatment. Proof-of-principle study represented TTS 2018 in Madrid but our results changed by increased number of patients. Study will be supported by a larger study group. Since DSA in allograft tissue dictates the molecular mechanisms mediating tissue damage, monitoring DSA along with therapeutic response enable us to plan appropriate therapeutic intervention and to prevent unnecessary immune suppressive therapy for the patients.

P41

mHLA-G Expression on Treg Cell and Natural Killer Cell Associated with Desensitization in Heart Transplant Patients

Bilkay Baştürk[1], Bircan Kantaroğlu[1], Miray Kavuzlu[1], Atila Sezgin[2], Elif Sade[3], Mehmet Haberal[4]

Departments of [1]Immunology, Başkent University, Adana; [2]Cardiovascular Surgery, [3]Cardiology, and [3]Transplantation, Başkent University, Ankara, Turkey

Introduction: Human leukocyte Antigen-G (HLA-G) molecules are non-classic (HLA class Ib) antigens and characterized by tolerogenic and immune-inhibitory functions. HLA-G modulates natural killer (NK) cells, T cells, and DC maturation with various inhibitory receptors.

The aim of this study was to investigate HLA-G expression on CD16+ NK cells and CD4+CD25high T cells in heart transplant patients.

Methods: HLA-G expression profiles are routinely determined in patients which are enrolled in regular follow-ups. 24 patients were investigated post-transplantation. Results compared with previous study control group. Patients were followed similarly pre-and post-treatment before treatment and diagnosis of rejection post-transplantation. To investigate the expression of HLA-G on the surface of CD4+CD25(high) Treg cells and CD16+ natural killer cells, we used anti-CD45, anti-CD3, anti-CD4, anti-CD25- anti-CD16 and anti-HLA-G monoclonal antibodies in flow cytometer analysis. Statistical analysis was performed using SPSS software. This study was approved by Baskent University Institutional Review Board (Project no: KA17/243) and supported by Baskent University Research Fund.

Results: CD4+CD25high Treg CD4+CD25high HLA-G+ cellular subgroups were found to be statistically different in patients and healthy controls ($p<0.05$). The mean values within the patients as a group were not statistically significant. Our findings indicated that the increases in CD4+CD25high cellular subgroup and CD4+CD25highHLA-G+ cellular subgroup as well as CD4+CD25highHLA-G+ cellular subgroup and CD3-CD16+ HLA-G+ cellular subgroup correlated with each other. Furthermore, plasmapheresis and IVIg treatment were shown to upregulate the percentage of CD4+CD25high HLA-G+ cell subgroup.

Conclusion: Increased mHLA-G surface expression in CD4+CD25high Treg cells and CD3-CD16+ cells post-transplantation could contribute to tolerogenic effect. HLA-G down regulate the recipient immune response via its interaction with the inhibitory receptors (ILT2, ILT4, KIR2DL4)

P42

Blood Stream Infections Due to Extremely Drug Resistant Gram Negative Pathogens in Solid Organ Transplant Recipients: Epidemiology, Risk Factors and Mortality

Çiğdem Erol[1], Melike Hamiyet Demirkaya[1], Ebru H. Ayvazoğlu Soy[2], Hande Arslan[1], Mehmet Haberal[2]

Departments of [1]Infectious Diseases and [2]Transplantation, Başkent University, Ankara, Turkey

Introduction: Solid organ transplantation (SOT) is the gold standard strategy for end stage organ diseases. However, immunosuppressive therapies, previous antibiotic exposure and invasive procedures facilitate the bacterial infections, particularly blood stream infections (BSI). In recent years infections due to multidrug resistant gram negative pathogens are becoming an emergent threat for transplantation. The aim of our study is to evaluate epidemiology, risk factors and the mortality rates in this group.

Methods: The data was collected retrospectively between 1 January 2016 and 31 December 2018 at Başkent University Ankara Hospital; from 164 renal, 60 liver and 19 heart transplant recipients who had transplantation in this period and had gram negative bacteremia. The chi-square test and logistic regression test was performed with SPSS Statistics 25 programme. XDR bacteria was defined as non-susceptibility to at least one agent in all but two or fewer antibiotic categories (i.e. bacterial isolates remain susceptible to only one or two categories).

Results: From January 2016 to December 2018, 39 gram negative BSI episodes were identified in 23 of 243 SOT recipients. There were seven female (30.4%) and sixteen male (%69.6) patients. The mean age was 44.78 (±13.9). XDR gram negative bacteria were isolated from eighth of the gram negative BSI episodes (1/8 Klebsiella pneumonia (12.5%), 6/8 Acinetobacter baumanii (75%) and 1/8 Pseudomonas aeruginosa (12.5%)). In the BSI episodes caused by XDR gram negative bacteria, mean duration of hospitalization before the episode was 94 (±19.2) days and the mean age of patients was 63.0 (±2.16) and they were significantly higher than the other group. In all types of SOT, the difference between two groups according to the requirement of hemodialysis (p=0.01), the intensive care unit hospitalization in the previous week (p=0.022), invasive procedures in the last fifteen days (p= 0.034) and the intensive care requirement in the first week of episode (p= 0.044) were statistically significant. There were no difference between genders, types of transplant organ, types of donors, and antibiotic usage in the previous month in two groups. While evaluating the primary infection focus, in the intraabdominal or biliary infections the occurrence of XDR BSI was higher but the difference was not statistically significant. Overall mortality rates in the first seven days was 10.3% and in the first thirteen days was 28.2%. Mortality rates for XDR BSI were higher (12.5% vs 9.7% in the first seven days and 37.5% vs 25.8% in thirty days) but the difference was not statistically significant .

Conclusion: The blood stream infections, particularly caused by XDR gram pathogens are huge challenges for SOT recipients because of the lack of antimicrobial drug choices. Our study shows that we can be able to cope with the risk factors like duration of stay, hospitalization in ICU, invasive procedures only with the infection control procedures.

P43

Have HLA Allele Frequencies Changed Since the Influx of Immigrants in Southeastern Turkey

Bilkay Baştürk[1], Bircan Kantaroğlu[1], Miray Kavuzlu[1], Aytül Noyan[2], Dilek Torun[2], Mutlu Kasar[1], Mehmet Haberal[3]

Departments of [1]Immunology, [2]Nephrology, Başkent University, Adana; and [3]Transplantation, Başkent University, Ankara, Turkey

Introduction: HLA alleles are differentially distributed in populations all over the world. Alleles are frequency related to population relationships. Especially in the last 6 years, more than 4 million people have been displaced and have taken refuge in Turkey. The aim of the study was to investigate HLA class-I and class-II allele frequencies and if there are any differences between 2010-2015 and 2015-2019 in our region.

Methods: Tissue typing for HLA class-I (-A,-B,-C) and class-II (-DRB1,-DQB1) in 6803 volunteers (female n:3110) and (male n:3693) who applied to Baskent University Dr. Turgut Noyan Adana Research and Medical Center (between 2010 and April-2019) for renal transplantation or hematopoietic stem cell transplantation (HSCT), were studied using sequence-specific primers (SSP) and/or sequence-specific oligonucleotides (SSO-P).

Results: A total of 21 HLA-A, 31 HLA-B, 14 HLA-C, 13 HLA-DRB1 and 5 HLA-DQ alleles were identified. The most frequent HLA alleles were HLA-A*02 (35,0 %), HLA-A*24 (28,5 %), A*03 (21,8 %), HLA-B alleles were HLA-B*35 (32,0 %), HLA-B*51 (24.3 %), HLA-B*44 (13,1 %), HLA-B*18 (11,5 %), C*04 (25,2 %) C*07 (23,2 %), C*12 (19,9 %) and for class-II; HLA-DRB1*11 (45,3 %), HLA-DRB1*04 (28.7 %), and HLA-DRB1*15 (21,0 %), HLA-DQB1*03 (53,4 %) and HLA-DQB1*05 (32,4 %)

Conclusion: This study is the first to be carried out with such mass screening of Turkish population. Our study results show that there is no correlation between patients and donors. So we can accept our results as the real HLA frequencies independent from hematological disease and end stage renal failure. According to our literature search similar data (first and second HLA allele frequencies) were observed for HLA-A and HLA-B and HLA-DRB1 alleles as Mediterranean countries. When we compared our earlier results (2010-2015) with the last study results (2015-2019) we found statistical differences. (Table1). This may be a result of the influx of immigrants.

Table 1: Comparison of results before and after 2015

Allel	Year 2010-2015 (n: 4179) %	Year 2015-2019 (n: 2624)	Year 2010-2019 Total (n: 6803)	P value
A*24	26.8	31.3	28.5	0.0001#
A*30	8.3	1.2	5.6	0.0001
A*33	4.0	14.0	7.9	0.0001#
C*04	19.3	34.7	25.2	0.0001#
C*06	8.9	15.5	11.4	0.0001#
C*07	18.1	31.2	23.2	0.0001#
C*12	15.2	27.2	19.9	0.0001#
C*15	8.9	16.8	12.0	0.0001#
DRB1*01	31.6	11.7	24.0	0.0001
DRB1*02	1.6	0.2	1.1	0.0001

:Increased allele frequencies

P44

A New Approach for Transplanting Cells to Treat Diabetes

Nodirjon Ruzimurodov

Institute of Immunology and human genomics Academy of Science Republic of Uzbekistan, Tashkent, Uzbekistan

Introduction: The only possible way to cure patients with diabetes is to transplant the pancreas or its cells, which is a very effective way to achieve and maintain long-term physiological control of blood glucose levels, but due to various risks (rejection) associated with performing a surgical procedure, this method is rarely used.

Methods: In the Republican Scientific and Specialized Center of Hepatopancreatobiliary Surgery, the Ministry of Health of the Republic of Uzbekistan has developed an effective method of surgical treatment of DM by free implantation of islet cells of the pancreas cultures and introduced into clinical practice. Xenotransplantation was performed by 186 DM patients aged 13 to 59 years.

Results: The therapeutic effect of transplanted islet cells of pancreas in DM patients was assessed by the dynamics of the symptoms of diabetes. The dynamics of clinical manifestations of diabetes was studied separately in patients who received insulin before transplantation in a dose of less than or more than 40 units. As the examination of patients with implants of the islet cells of pancreas showed, within 9 months after the transplantation practically all disappeared clinical manifestations of the diabetes itself and its complications. Only 3 patients showed mild complaints of dry mouth, sometimes pain in the limbs. Consequently, after the transplantation of islet cells of pancreas both lambs and pigs, it is possible to significantly reduce the dose of exogenous insulin administered to a patient with DM. The need for exogenous insulin was more pronounced in recipients who received insulin at a dose of more than 40 units before the transplant.

Conclusion: Thus, summing up the clinical results of islet cell transplantation along with the achievements, we noted that the problem bears in itself many more questions that await their resolution

P45

Effect of Muralor Intra-Arterial Injection Adipose Derived Stem Cells on TNBS-Induced Colitis: An Experimental Study

Tugan Tezcaner[1], Ahmet Çağrı Uysal[2], Gonca Özgün[3], Huriye Eda Özturan Özer[4], Yahya Ekici[1], Sedat Yıldırım[1]

Departments of [1]General Surgery, [2]Plastic and Reconstructive Surgery, [3]Pathology, and [4]Biochemistry, Baskent University, Ankara, Turkey

Introduction: Our aim was to investigate the potential therapeutic effects of transplanted adipose derived stromal vascular fraction cells (SVFs) in inflammatory bowel disease (IBD).

Methods: For inducing colitis, rectal enema of trinitrobenzene sulfonicacid (TNBS) was administeredto Wistar Albino rats. The SVFs isolation and preparation was performed by lipoaspirate method and the prepared stem cells were labeled with 1,1'-Dioctadecyl-3,3,3',3'-tetramethylindocarbo-cyanine (DiI) was applied to the rats in the study groups. Rats were randomly divided into five groups. In Group 1, rats were sacrificed 14 days after TNBS administration. All other groups underwent mural or intra-arterial injection of SVFs 7 days after TNBS administration. In Group 2, 1 cc Phosphate Buffered Saline (PBS) without SVFs surrounding the large bowel wall with midline laparotomy; in Group 3, 1 cc PBS containing SVFs was applied in the same manner. In Group 4, 1 cc PBS with no SVFs was given from the inferior mesenteric artery through midline laparotomy and 1 cc PBS containing SVFs was given in Group 5. Histopathologic and immunohistochemical examinations were performed at the 7th day of transplantation. The Dil-positive cells were evaluated in the photographs that were taken with the fluorescent filterat 545–580mm wavelength.

Results: Mural injection of SVFs ameliorated histopathologic severity of colitis, in terms of inflammation, crypt damage, epithelization and neovascularization ($P < 0.05$). In group 3, both Dil-positive and CK20-positive cells were shown in regeneration sites of mucosa.

Conclusion: Direct SVFs transplant to inflammation site may be an attractive candidate for cell-based therapy of IBD.

P46

The Effects of Adipose Tissue-Derived Stem Cells and Platelet-Rich Fibrin in Attenuated Colon Anastomosis: An Experimental Study

Burçin Doruk Oktay[1], Tugan Tezcaner[1], Yahya Ekici[1], Pelin Börcek[2], Ahmet Çağrı Uysal[3], Gökhan Moray[1]

Departments of [1]General Surgery, [2]Pathology, and [3]Plastic and Reconstructive Surgery, Baskent University, Ankara, Turkey

Introduction: As a result of neoadjuvant or adjuvant chemotherapy in colorectal cancer, postoperative wound healing is impaired and anastomotic leakage rates increase. Adipose tissue-derived stem cells can be differentiated into new cells as well as to increase the formation of new vessels has been shown in many studies. The aim of this study was to investigate the efficacy of platelet-rich fibrin (PRF) and adipose-derived stem cells in order to increase the amelioration of attenuated colonic anastomosis.

Methods: Sprague-Dawley rats were used in the study. Complete transection of decending colon and anastomosis was performed to all of the rats in study groups. Ten rats were used to obtain stem cell and platelet rich fibrin. In the control group, intraperitoneal 3-5cc saline was administered after anastomosis and intraperitoneal 5-FU was administered after anastomosis in other three groups. In third group (PRF group), thrombocyte rich fibrin was administered around the anastomosis after the anastomosis; and in the forth group (stem cell group), platelet rich fibrin and stem cell was administered around the anastomosis. Intraperitoneal 5-FU was given daily for 1 week to all three groups except for the control group. All rats were sacrificed on day 7 after surgery. Anastomosis bursting pressure, histopathological examination and angiographical examination were done after scarification. Immunofluorescent examination was performed in the study group to monitor adipose stem cells labeled with DiI.

Results: Perforation, fistulization, intraabdominal abscess and anastomosis separation were significantly less in stem cell group and control group compared to 5-FU and PRF group. In the 5-FU and PRF group, the anastomosis bursting pressure measurement could not be performed due to the distinct anastomosis separation. In the angiographic evaluation, the number of vessels per mm^2 decreased significantly in PRF group compared to Stem cell group. In histopathological evaluation, no significant difference was found between reepithelization ($p = 0.002$), fibrosis ($p < 0.001$), ischemic necrosis ($p < 0.001$) and inflammation, neutrophils, lymphocytes and giant cells ($p = 0.177$-$p = 0.562$). Vascular proliferation was statistically significant ($p = 0.019$) among 5-FU and Stem cell groups compared to the control group. Fluorescence was found to be between endothelial cell transformation and villous structures. There was a statistically significant difference between the groups in terms of mortality rates ($p < 0.001$) and the mortality rate was significantly higher in the 5-FU and PRF groups compared to the control group ($p = 0.018$ and $p = 0.003$), the mortality rates were significantly higher in the 5-FU and PRF groups compared to the Stem cell group ($p = 0.018$ and 0.003).

Conclusion: When the stem cells were co-administered with PRF, anastomotic healing was improved by both differentiation and effects on cytokine secretion. Histopathologically, there was no significant difference in inflammation, which was attributed to growth hormones and cytokine release, which peaked on the seventh day with PRF and stem cells. Although these findings are promising, further studies are needed for translation the stem cell therapy in clinical practice.

P47

Autologous Mesenchymal Stem Cell Transplant in Patients with Type 2 Diabetes Mellitus

Olga Ulyanova, Abay Baigenzhin, Larissa Kozina, Zhannat Taubaldieva, Manarbek Askarov, Temirlan Karibekov, Galiya Shaimardanova

National Scientific Medical Research Center, Astana, Kazakhstan

Introduction: Recently, diabetes mellitus type 2 (DM 2) remains one of the main public healthcare problems worldwide with a tendency to steady growth. DM 2 is a major risk factor for cardiovascular diseases, which account for high rates of morbidity and mortality among adult patients. A decrease in insulin resistance and replacement of beta cells are the goal of therapy for DM 2. Autologous mesenchymal stem cell transplant (AMSCT) draws attention to potentially effective therapeutic approaches to the treatment of DM 2.

Methods: We examined 6 patients (age 37-57 y) with DM 2 who received AMSCT (cells were obtained from the patient's iliac crest and cultured for 3-4 weeks) performed by intravenous infusion and 5 patients (age 49-63 y) with DM 2 from the control group. The quantity of autologous mesenchymal stem cells infused was from 95 to 97 × 10^6. We analyzed the levels of glycated hemoglobin and the CARO index (insulin resistance index) in patients before, 3 and 6 months after the AMSCT procedure.

Results: Characteristics of the patients with DM 2 with AMSCT and the patients with DM 2 in the control group before, 3 and 6 months after the AMSCT procedure (Table 1).

In patients with DM 2, AMSCT resulted in a decrease in HbA1C levels from 6.76+0.4 % to 6.4+0.415% (P=0.095) after 6 months, with a tendency to increase the levels of the CARO index from 0.926+0.240 to 0.934+0.274 (P=1.0) and 1,2+0,257 (P=0.309) after 3 and 6 months, respectively. Unlike the patients with DM 2 in the control group, the mean levels of the CARO index tended to decrease from 0.507+0.093 to 0.457+0.134 (P=0.69) and 0.382+0.081 (P=0.095), respectively, after 3 and 6 months.

Conclusion: The upward trend in the CARO index levels improves insulin sensitivity 3 and 6 months after AMSCT in patients with DM 2.

Table 1.

	Basal level	After 3 months	After 6 months
DM 2 with AMSCT (n=6) HbA1C, % CARO index	6.76+0.4 0.926+0.24	6.98+0.338 P=0.547 0.934+0.274 P=1.0	6.4+0.415 P=0.095 1.2+0.257 P=0.309
DM 2 control group (n=5) HbA1C, % CARO index	6.53+0.231 0.507+0.093	6.74+0.128 P=0.15 0.457+0.134 P=0.69	6.13+0.497 P=0.222 0.382+0.081 P=0.095

P48

The Effect of Selective Suture Removal on Post-Penetrating Keratoplasty Astigmatism in Keratoconus Patients

Dilek Dursun Altınörs, Leyla Asena, Sibel Oto
Department of Ophthalmology, Baskent University, Ankara, Turkey

Introduction: The aim of this study was to determine the effect of selective suture removal on post-penetrating keratoplasty astigmatism in keratoconus patients.

Methods: The study group consisted of 28 consecutive penetrating keratoplasties performed using 12 interrupted 10-0 nylon sutures. Selective suture removal (SSR) was performed to reduce postkeratoplasty astigmatism at the postoperative 2nd month. Refraction and topography was repeated 4-6 weeks later. A paired-samples t-test was used to evaluate the impact of selective suture removal on reducing the magnitude of topographic and refractive astigmatism.

Results: Mean patient age was 28.3 ± 5.6 years at the time of keratoplasty. Topographic astigmatism decreased from 5.23±2.41 D to 3.67±1.34 D (p=0.01) and the refractive astigmatism decreased from 3.45±2.65 D to 2.50±1.44 D (p=0.03) following SSR. Snellen best corrected visual acuity increased from 0.42±0.23 to 0.56±0.24 (p=0.03).

Conclusion: Early selective suture removal after penetrating keratoplasty is associated with a favorable keratometric and refractive outcome.

P49

Novel Management of Recurrent Keratoconus after Penetrating Keratoplasty with Topography Guided Selective Re-Suturation of the Graft-Host Junction

Dilek Dursun Altınörs, Leyla Asena, Sibel Oto
Department of Ophthalmology, Baskent University, Ankara, Turkey

Introduction: Our purpose was to report the results of topography guided re-suturation of the graft-host junction for recurrent ectasia in donor corneas after penetrating keratoplasty (PK) for keratoconus.

Methods: Twelve patients with recurrent keratoconus after penetrating keratoplasty were included in the study. All patients had clear grafts with an unfavorable refractive status. Topography guided re-suturation of the graft-host junction was performed in the operating room. Preoperative and postoperative 6th month refractive and topographic results, as well as visual acuity were compared using the paired-samples t-test.

Results: Mean patient age was 32.3 ± 5.6 years at the time of re-suturation. The mean time from PK to re-suturation was 36.4±15.4 months. Best corrected Snellen visual acuity increased from 0.63±0.42 to 0.70±0.32 (p=0.05). Topographic astigmatism decreased from 6.52±2.41 D to 3.47±1.74 D (p=0.01). The refractive astigmatism decreased from 4.45±2.85 to 2.50±1.76 (p=0.02). Spherical equivalent of refraction decreased from -9.82±3.22 D to -4.22±2.54 D (p=0.01).

Conclusion: Topography guided re-suturation of the graft-host junction for recurrent ectasia in keratoconus patients may lead to favorable keratometric and refractive outcomes and decrease the need for re-keratoplasty in these patients.

P50

The Effect of Corneal Transplantation on Visual Function and Vision-Related Quality of Life

Leyla Asena, Dilek Dursun Altınörs, Sibel Oto
Department of Ophthalmology, Baskent University, Ankara, Turkey

Introduction: The aim of this study was to assess the vision-related quality of life (QOL) and satisfaction of patients who underwent corneal transplantation.

Methods: Survey data using a modified version of the Visual Function Index were collected at the 3rd postoperative month from 38 patients who underwent corneal transplantation in 2018 at Baskent University Faculty of Medicine. The survey assessed visual functionality, independence, and satisfaction. Transplant surgeries were limited to penetrating keratoplasty. Sociodemographic and clinical data, including age, sex, initial and follow-up visual acuities, were collected. QOL survey measures were compared with patients' clinical findings to assess the differences between objective and subjective visual functioning.

Results: Mean age of the patients was 54.5±11.4 years. Mean best corrected Snellen visual acuity was 0.32±0.21 preoperatively and increased to 0.56±0.24 at the end of the 3rd month. Age was positively associated with QOL improvement ($P = 0.01$). A relatively lower baseline vision was associated with a worse QOL ($P < 0.001$). Higher amount of improvement in visual acuity was positively associated with QOL improvement. When asked directly about their QOL, patients with relatively higher baseline vision reported no change in their QOL ($P = 0.035$).

Conclusion: Older recipient age, better baseline vision and higher amount of improvement in visual acuity seem to be associated with higher postoperative QOL. Based on these findings, it is suggested that transplant surgery should be considered for patients with a relatively good baseline vision as well as for patients in whom a high amount of vision gain is anticipated.