Weight Gain After Kidney Transplant

Nilgün Aksoy

Abstract

Objectives: Weight gain and obesity are frequent problems for renal transplant patients. The purpose of this review is to show why weight gain is experienced by patients after kidney transplant and the significance of prevention.

Materials and Methods: To investigate this topic, PubMed and Ulakbim databases were searched with the following key words: renal transplant and transplantation, weight gain, and obesity.

Results: Weight gain frequently appears in the first year after transplant, and it is reported to be a common problem for patients within the first 6 months. Weight gain varies between 6 and 10 kg, and the change in mean body mass index varies between 2 and 3.8 kg/m² after transplant. Potential factors causing weight gain after kidney transplant are the use of immunosuppressive medications to protect the newly implanted organ and the changes in lifestyle, such as dietary intake and insufficient physical activity. In addition, weight gain is affected by factors such as age, sex, race, lack of acute rejection, genetics, and psychological factors related to stress.

Conclusions: A better understanding of food intake, physical activities, and environmental factors causing weight gain after kidney transplant and the development of dietary intake and physical activity protocols specific to individuals would be helpful for health care professionals.

Key words: Education, Obesity, Transplantation nursing

Introduction

Renal transplant is the primary treatment option with respect to survival, health care costs, and quality of life for patients with end-stage renal disease. Weight gain causes metabolism and insulin resistance failure, resulting in rise of adiposity weight. In the past 20 years, the key reason for end-stage renal disease is type 2 diabetes mellitus. Obesity causes negative effects on renal functions in addition to the risk of developing glucose metabolism failure. The World Health Organization explained that obesity is a common chronic disease in both developing and developed countries. Obesity is accepted as one of the neglected public health problems with various effects. In one study, obesity frequency was shown to occur in 20.1% of the Turkish population, defined as body mass index over 30 kg/m², and a significant difference was shown between women and men (24.6% versus 15.5%; \( P < .001 \)).

In the general population, obesity, also defined as body mass index \( \geq 30 \text{ kg/m}^2 \), is associated with higher rates of hypertension, diabetes, cardiovascular disease, and premature death. Among renal transplant recipients, obesity either at the time of or after renal transplant has been associated with shortened allograft and patient survival, although the results are conflicting.

Materials and Methods

To investigate this topic, PubMed and Ulakbim databases were searched with the following key words: renal transplant and transplantation, weight gain, and obesity.

Results and Discussion

It is known that increased body mass index and weight are serious health problems. Average
body mass index significantly rises 6 months after renal transplant, and this causes serious problems, especially for individuals who had obesity or were undernourished. According to De Oliveira and associates, weight gain after transplant is common and is seen in both patients who were obese and patients who were not obese before transplant.

Others have also documented that weight gain often emerges in the first year after transplant and is seen in both patients who were obese and patients who were not obese before transplant. and is a common problem for patients, especially during the first 6 months. Weight gain after transplant has been shown to be from 6 to 10 kg, with average body mass index increasing between 2 and 3.8 kg/m². Stanfill and associates reported that weight gain in the first year after transplant was from 6 to 13.5 kg. A retrospective study showed that 32% of patients who had normal body mass index and 23% of overweight patients were classified as obese 12 months after renal transplant.

Potential factors causing weight gain after renal transplant include use of immunosuppressive agents to protect the implanted organ, lack of physical activity, and other lifestyle changes such as dietary intake. Moreover, age, sex, race, absence of acute rejection, and genetic and psychological effects related to stress can play roles in weight gain.

Ending dietary restrictions that were maintained during the dialysis period after renal transplant is necessary for patients to resume well-balanced nutrition, with reports showing increased dietary intake increased after transplant. Dietary interventions in the early posttransplant period and patient monitoring can be effective in prevention of excessive weight gain. Evidence-based application guides for renal recipients about dietary management have been developed and published, including The Caring for Australasians with Renal Impairment in 2009. This guide supports the regular monitoring of dietary intake and early intervention for effective prevention of comorbidity due to obesity.

In a prospective study conducted by Zelle and associates in 2013, patients with stable body fat levels had 33% to 37% more number of steps in addition to regular activity than those without stable body fat levels. Patients with stable weight had greater levels of physical activity, with 19% of these patients having more than 10,000 steps per day. In a qualitative study conducted by Stanfill and associates in 2012, situations preventing physical activity include impairment of health of the new kidney, health complications related or not related to transplant (leg pain, backache, nerve entrapment), and lack of time after return to work.

Immunosuppressive medicines such as steroid agents can result in increased appetites, affecting patient weight gain. In a study conducted to identify the relation between steroid use and weight gain, weight gain occurred in 9% of patients who used steroids in the 36 months after transplant. Steroids affect appetite, resulting in increased weight gain.

In a retrospective study that examined factors causing excessive weight gain during the first year after transplant, individual care was emphasized as the most effective approach to prevent obesity and should start while the patient receives dialysis and should continue after transplant. Moreover, it was suggested that nurses should set realistic and accessible goals and apply individualized medically dependable weight management and obesity interventions.

Conclusions

The effects of weight gain on morbidity for transplant recipients are similar to those shown in the general population. The effects of weight gain are closely related to those of loss of graft and mortality. A multidisciplinary approach is required during follow-up treatment regarding management of weight. Nurses have important responsibilities in this team approach. A better understanding of mechanisms behind the weight gain is important to take precautionary measures. A better understanding of environmental factors, physical activity, and dietary intake causing weight gain after transplant and the development of individual dietary intake and physical activity protocols are important.

References


