Cervical Carcinoma in a Renal Transplant Recipient: A Case Report

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Abstract

A range of cancer types, at increased rates, is described in renal transplant recipients receiving immunosuppression. Aside from immunodeficiency, heightened medical surveillance for cancer, lifestyle, and other risk factors all play a role. Although the relation between cancer risk and degree of immunodeficiency might not be linear, and might be different for a wide range of cancer subtypes, human papillomavirus-related cancers in long-term transplant recipients may suggest the role of even modest immunosuppression, when present long enough. High-risk human papillomavirus types are recognized as the cause of cancer of the cervix. We report a 49-year-old female renal transplant recipient diagnosed with cervical squamous cell carcinoma, 5 years after the transplant. Based on this patient, we highlight difficulties in surgical approach and the importance of close clinical follow-up including regular gynecologic screening for cervical premalignant and malignant lesions.

Key words: Hysterectomy, Immunosuppression, Squamous cell carcinoma

Introduction

Renal transplant is an indispensable treatment option for patients who have end-stage renal failure. However, there is an increased risk of developing various types of cancer in these patients.1,2 Treatment options are different for cervical carcinoma than other types of cancer because of the changes in the anatomic structure of the cervical operative site. In the present case report, we highlight difficulties in surgical approach and the importance of close clinical follow-up including regular gynecologic screening for cervical premalignant and malignant lesions.

Case Report

A 49-year-old woman (gravida 9, para 7) was referred to Başkent University Gynecologic Oncology Center with the diagnosis of cervical polypoid lesion. At age 43 years, renal transplant was performed because of left renal agenesis that resulted in end-stage renal failure. The patient required hemodialysis 3 years prior to receiving a renal transplant from her son. Before renal transplant, the patient was screened with conventional cytology, but not with human papillomavirus (HPV) testing, and no abnormality was detected. During renal transplant, the renal artery was grafted to the internal iliac artery, the renal vein was grafted to the external iliac vein, and the kidney was placed in the iliac fossa. No complication was observed perioperatively or postoperatively. She had no follow-up after operation, either with cytologic screening or HPV testing for cervical malignancy.

At referral, 5 years following renal transplant, the patient was on cyclosporine (150 mg twice daily), prednisone (60 mg once daily), amlodipine mesylate (5 mg twice daily), and mycophenolate mofetil (1500 mg twice daily). The patient complained of vaginal discharge. Pelvic examination revealed a cervical polypoid lesion (diameter, 3 to 4 cm); cytologic screening was negative, and histopathology of the cervical biopsy showed squamous cell carcinoma. The patient had surgical treatment. During the operation, the transplanted kidney was

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observed on the left side, lying on the iliac vessels, and obliterating the obturator fossa (Figure 1). With this anatomic finding, we performed radical hysterectomy, para-aortic lymphadenectomy, and pelvic lymphadenectomy on the right side (Figure 2). Pathology was nonkeratinized squamous cell carcinoma (diameter, 3.5 × 2.5 cm). Stromal invasion was measured (1.1 cm), and there was lymphovascular invasion. Surgical margin was positive in the vagina without involvement of parametrium. Brachytherapy was given to the patient. There was no recurrence observed on computed tomography scan at 9 months after surgery.

Figure 1. Transplanted Kidney Observed on the Left Side, Lying on the Iliac Vessels, and Obliterating the Obturator Fossa

Figure 2. Radical Hysterectomy Specimen

Discussion

Alterations in the anatomic structure of the pelvis may occur such as transplant of a recipient kidney in the iliac fossa, disruption of normal anatomic relations of the ureter with surrounding organs, and changes in vascular structures because of anastomosis of renal vessels. Therefore, prior renal transplant may complicate radical hysterectomy and lymphadenectomy in renal transplant patients who have cervical carcinoma. In the present case, the transplanted kidney was firmly adherent to the iliac vessels and obliterated the obturator fossa totally, and it was not feasible to perform lymphadenectomy. We did not perform pelvic lymphadenectomy on the left side in the present case because of the risk of loss of renal function and fatal vascular injury.

Pelvic radiotherapy also may result in loss of renal function, and it was reported that radiotherapy may be considered as a treatment option in a renal transplant patient who has cervical carcinoma. However, it may be possible to perform radical hysterectomy and pelvic lymphadenectomy in these patients in some circumstances.

For the treatment of cervical carcinoma in patients who have congenital pelvic kidneys, mobilization of the kidney out of the operative or radiation site may be considered as an optimal treatment option. However, in renal recipient patients, in contrast with patients who have congenital pelvic kidneys, mobilization of the transplanted kidney may be complicated by dense adhesions between the transplanted kidney and surrounding tissues.

There is an apparent risk of cervical cancer in patients who have immunosuppressive therapy. There is an 11- to 14-fold higher risk of developing cervical carcinoma in situ and 1.6- to 5.7-fold higher risk of cervical cancer in renal transplant patients. Immunosuppressive treatment in renal transplant patients also may increase the risk of progression of a preinvasive lesion to cancer. Additionally, there is an increased incidence of high-risk HPV infection in immunosuppressed patients, and especially was observed in renal transplant patients who had cervical carcinoma.

In conclusion, it is difficult to perform optimal treatment for cervical carcinoma in renal transplant patients. Therefore, we suggest focusing on close follow-up to detect and treat cervical preinvasive lesions in these patients.

References