

CASE REPORT

HPV type 45-positive condyloma acuminata of the bladder in a renal transplant recipient

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Email: drsarier@gmail.com**Abstract**

Condyloma acuminata (CA) are warty lesions caused by human papilloma virus (HPV) that generally affect the external genitalia and mucocutaneous junctions. Involvement of the urinary tract is rare, and involvement of the urinary bladder is thought to be due to immunosuppression. A 30-year-old woman was diagnosed with urethral CA 12 months after renal transplantation. She underwent transurethral resection (TUR) of the urethral lesions. During the operation, multiple sessile warty lesions were found incidentally inside the bladder and were also removed by TUR. The patient's postoperative course was uneventful. Pathological examination confirmed that the lesions were CA. Multiplex real-time polymerase chain reaction was performed to confirm the HPV genotype and revealed type 45 HPV DNA. CA of the urethra are uncommon, and bladder involvement is extremely rare. This case is the first reported, to our knowledge, to involve HPV type 45 in bladder condyloma. TUR may be the preferred option for the management of CA in the urinary bladder.

KEYWORDS

condyloma acuminata, HPV, kidney transplantation

1 | INTRODUCTION

Condyloma acuminata (CA) are warty lesions that most commonly affect the external genitalia and mucocutaneous junctions. Involvement of the urinary tract is infrequent and is usually limited to the urethra;¹ urinary bladder involvement is exceedingly rare.² Isolated urinary bladder involvement is thought to be due to immunosuppression.³ Here, we report a case of incidentally discovered CA of the urinary bladder in a renal transplant recipient.

2 | CASE REPORT

A 30-year-old female patient presented with several warty lesions on the distal urethra 12 months after living-donor renal transplantation, which she had undergone due to renal failure caused by type I

diabetes mellitus. She had no history of human papilloma virus (HPV) infection prior to transplantation. The patient's immunosuppressive regimen consisted of tacrolimus, prednisolone, and mycophenolate mofetil. Four months after transplantation, an episode of rejection was treated with anti-thymocyte globulin and pulse steroids. Vulvar and cervical CA were detected 6 months after transplantation. These condylomatous lesions were resected completely in our Gynecology Department. Transurethral resection (TUR) of the urethral lesions was performed in the Urology Department. During the operation, after resection of the urethral lesions, multiple sessile warty lesions (~1 cm in diameter) were identified incidentally inside the bladder (Figure 1). These lesions were removed by TUR.

The patient was discharged with no complication. Tissue samples were submitted for pathological analysis and HPV DNA testing was performed. Histopathological examination revealed papillae with acanthosis and koilocytosis in the middle and upper epithelium (Figure 2). Results of periodic acid-Schiff staining were negative (Figure 3). The histology of the bladder lesions supported the diagnosis of CA. Immunohistochemical studies showed overexpression of p16.

Abbreviations: CA, condyloma acuminata; HPV, human papilloma virus; PCR, polymerase chain reaction; TUR, transurethral resection.

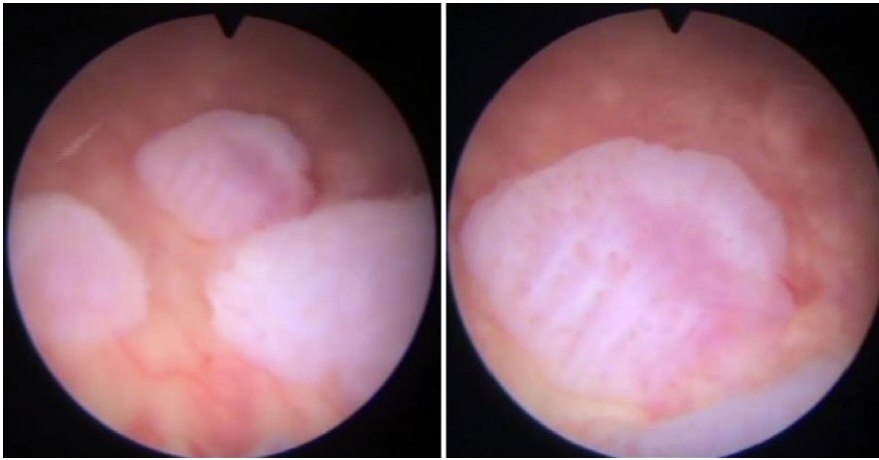


FIGURE 1 Pre TUR operation, cystoscopic images of condyloma acuminata. TUR, transurethral resection

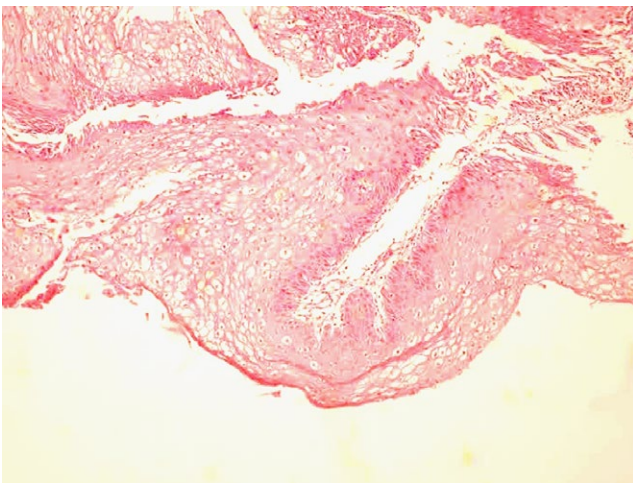


FIGURE 2 Papillae with squamous cells having perinuclear halo and nuclear enlargement. Hematoxylin & eosin, $\times 100$

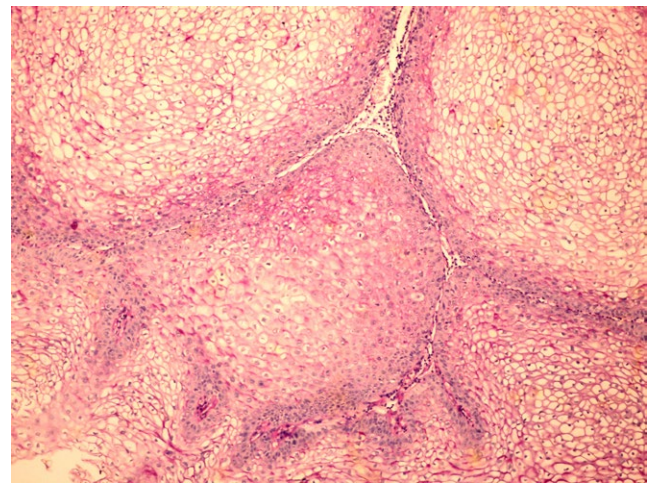


FIGURE 3 Cells showing no cytoplasmic reaction with periodic acid-Schiff stain, $\times 100$

Multiplex real-time polymerase chain reaction (PCR), performed to confirm the HPV genotype, revealed type 45 HPV DNA (Figure 4). Control cystoscopies were performed in the third and sixth post-operative months. No lesion was detected during these examinations, and the patient's CA was considered to be cured completely (Figure 5).

3 | DISCUSSION

CA, caused by HPV, predominantly affects the external genitalia and mucocutaneous junctions. Lesions are generally sessile or pedunculated papules, although plaques and vegetative lesions may also be detected.^{4,5} Anogenital CA is a predisposing factor for urethral involvement.⁶ Besides immunosuppression, prolonged urethral catheterization after renal transplantation or prior cystoscopic procedures are believed to contribute to posterior urethral and urinary bladder involvement by inoculating the microorganism.³

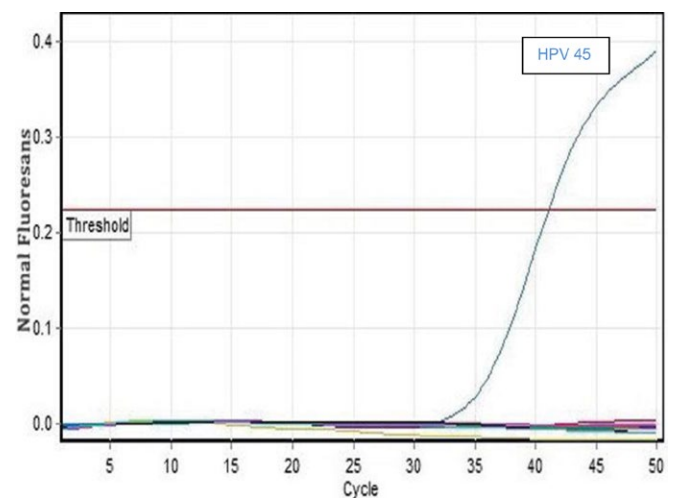


FIGURE 4 Detection of HPV type 45. (This report generated by Rotor-Gene Q Series 6000 Software 2.0.2 [Build 4]. Copyright © 2008 Corbett Life Science, a QIAGEN Company). HPV, human papilloma virus

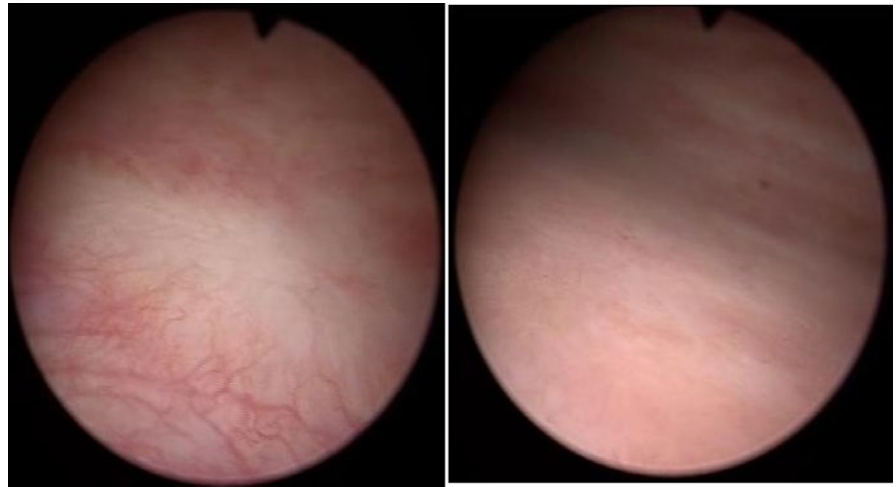


FIGURE 5 Control cystoscopic images of the bladder after TUR operation. TUR, transurethral resection

Several options are available for the treatment of bladder CA. A review of the literature revealed that TUR has been the most common successfully performed method in recent years. Other treatment options include cystectomy, pelvic exenteration, chemoradiation, and immunotherapy.⁶ As CA is generally considered to be prone to recurrence, complete surgical excision is the predominant mode of treatment. One complete TUR procedure is sufficient to eradicate the lesions. Of 6 immunocompetent patients with bladder CA who underwent TUR, only 1 patient showed recurrence.^{1,3,7-10} Similarly, recurrence following TUR was seen in 1 of 5 immunosuppressed patients with bladder CA (4 kidney transplant recipients and 1 human immunodeficiency virus-positive patient).¹¹⁻¹⁴ These results indicate that TUR is equally effective and safe in immunosuppressed patients (eg, in the post-transplantation period) and in those with normal immunity. The most common HPV types detected by PCR in urinary bladder lesions are types 6/11, 16/18, and 56/58.⁶ This report is the first, to our knowledge, to describe a case of urinary bladder infection with HPV type 45. HPV types are classified according to their oncogenic potential as low risk (types 6, 11, 42, 43, 44, 59, 66, 68, and 70), intermediate risk (types 30, 31, 33, 34, 35, 39, 40, 49, 51, 52, 53, 57, 58, 63, and 64), and high risk (types 16, 18, 45, and 56).¹⁰ HPV DNA type 45 is in the high-risk group. The high- and intermediate-risk groups are implicated in > 90% of anogenital pre-malignant and malignant tumors.¹⁵ The relationship between HPV and urinary bladder tumors is controversial;^{16,17} some studies have documented a relationship, but others have not. Immunosuppressive agents used after renal transplantation are known to increase de novo cancer formation.^{18,19} Reported rates of HPV DNA positivity in transitional cell carcinomas in patients with no transplantation history range widely, from 3%²⁰ to 57%.²¹ In another study, HPV DNA type 16 was detected in four of five patients diagnosed with transitional cell carcinoma of the bladder following renal transplantation.²²

4 | CONCLUSION

Anogenital CA diagnosed after renal transplantation may also involve elements of the urinary system, such as the urethra and bladder. TUR

may be the treatment method of choice in these cases. Typing of HPV in tissues is essential for the assessment of oncogenic potential; clinicians should keep in mind that HPV type 45 can be detected in bladder lesions.

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