RESIDENT'S CORNER

Female urethral condyloma acuminata mimicking urethral caruncle

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Condyloma acuminata are epidermal lesions caused by the human papillomavirus (HPV) most commonly affecting the anogenital region. Urethral involvement is uncommon, and may mimic other urethral lesions. In this case report, a 62-year-old patient presents with what was believed to be a

Introduction

Urethral lesions in women are uncommon. Although benign urethral lesions, such as urethral diverticuli, caruncles, Skene gland cysts, urethral prolapse and Gartner's duct abnormalities, are more common than urethral carcinoma, all urethral lesions should be thoroughly evaluated to prevent missed diagnosis of malignancy. Marshall et al, for instance, reported 1.6% incidence of urethral carcinomas in a case series of 376 urethral caruncle excisions.¹ The incidence of urethral carcinoma accounts for less than 1% of female GU cancers.²

Presenting symptoms of urethral lesions can consist of irritative or obstructive voiding symptoms, recurrent urinary tract infections, purulent and/or bloody urethral discharge, urethral or vaginal pain, and dyspareunia. Sexually transmitted diseases and viruses should be considered during the evaluation of urethral lesions. Chronic infection with sexually transmitted pathogens have been considered a predisposing factor

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Address correspondence to Dr. Nathan Cheng, Hackensack University Medical Group, 300 Essex Street, Suite 403, Hackensack, NJ 07601 USA urethral caruncle and underwent successful resection with the final pathologic diagnosis of urethral condyloma. The clinical features and diagnosis are reviewed. This condition should be considered in the differential diagnosis of females with known HPV or those who are deemed higher risk with unprotected sexual encounters.

Key Words: urethral condyloma acuminata, benign urethral lesions, human papillomavirus

for urethral carcinoma.³ The prevalence of any and high-risk genital human papillomavirus (HPV) in 2013-2014 was 39.9% and 20.4%, respectively, among women aged 18-59 years of age.⁴ HPV viral strains 16, 18, 31, 33, 35, 39, 45, 52, 56 and 58 are considered highrisk and associated with pre-cancerous lesions and squamous cell malignancies of the lower anogenital tract.⁵ HPV types 6 and 11 are associated with genital warts and nonmetastatic verrucous carcinomas. HPV 16 is the viral strain most often associated with primary carcinomas and metastatic lesions.⁶.

The incidence of condyloma acuminata has also been associated with the development of urothelial papillary tumors. Masuda et al detailed a case report of a 26-year-old female with an 8 mm distal urethral lesion confirmed to be low grade, non-invasive papillary tumor with HPV type 51 identified on polymerase chain reaction and in situ hybridization (ISH) analysis.

Case report

This case report details the finding of condyloma acuminatum, HPV types 6 and 11, mimicking a urethral caruncle in a 62-year-old female patient.

The patient was referred to an academic medical center urologist's office in northeastern United States

for evaluation of a urethral polyp diagnosed by the patient's primary gynecologist. She had been seeing her gynecologist regularly and had complaint of pelvic pain and vaginal spotting. One year prior to referral, she had a pap smear positive for high-risk HPV, and on repeat 2 months prior to referral, was negative for highrisk HPV. She denied voiding symptoms. On exam, she was noted to have atrophic vaginal epithelium and an excoriated anterior polypoid urethral lesion approximately 1.5 cm in diameter. The remainder of the genitourinary exam was normal. Urinalysis with microscopic analysis findings were 0-3 red blood cells and 5-10 white blood cells per high power field. Urine culture was negative and urine cytology was negative for malignant cells. Transvaginal, endopelvic ultrasound noted a homogenous uterus with three polyps noted within the endometrium. No transvaginal masses or endometrial free fluid was noted.

Cystoscopy performed in the office noted a friable polypoid lesion at the urethral meatus and distal urethra, Figure 1, and normal bladder mucosa absent of intrinsic bladder abnormalities.



Figure 1. Cystoscopic image of urethral meatus with 1.5 cm friable suspicious mass.



Figure 2. Urethral condyloma acuminatum. Hyperplastic papillae, mild nuclear atypia and perinuclear halos. (Hematoxilin and Eosin, original magnification x 20).

She underwent excision of the urethral polyp 3 weeks later. The lesion was excised sharply in its entirety with a #15 blade and the mucosa was reapproximated to the vaginal epithelium with 3-0 chromic gut suture in an interrupted fashion. The patient was discharged on the day of surgery with a Foley catheter.

Gross pathology of the lesion was described as a $1.5 \times 0.8 \times 0.4$ cm urethral mucosal lesion identified as condyloma acuminatum with acute and chronic inflammation noted. P 16 immunostain was focally positive and KI-67 proliferation index showed focal increase in proliferation, Figure 2, 3. HPV genotypic



Figure 3. Urethral condyloma acuminatum. Focal positive staining in the cells. (p16-immunostain, original magnification x 20).

characterization was requested from the pathologist, who subsequently performed in-situ hybridization (ISH) of thin-section microtomes of the specimen.⁷ The condyloma was positive for HPV genotypes 6 and 11.

The patient returned to the office 1 week later for a successful voiding trial. At her 6-week postoperative visit, her incision site was well healed with no signs of HPV recurrence at the urethral meatus.

Discussion

Guidelines for the management and surveillance of HPV of the female urethra have not been established through evidence-based outcomes due to the paucity of reference subjects available for review.

An evaluation of asymptomatic or symptomatic urethral lesion in females should include a thorough history and physical including assessment of unprotected sexual encounters. Physical evaluation should include a speculum exam, visual examination of vaginal mucosa for additional lesions and palpation of the urethra and anterior vaginal vault to determine the mobility, length and extension of lesion.

Consideration should be given to cystourethroscopy when female patients present with a large urethral lesion. Further, HPV lesions should be included in the differential diagnosis.

Among the differential diagnoses for urethral lesions in women, several rare benign masses should be considered. Leiomyoma are rare and present more frequently in premenopausal women in their 30s and 40s. They are noted to be associated with hormonal fluctuations as evidenced by changes in size during pregnancy and after delivery.⁸ Further evaluation can be conducted with radiological imaging with MRI or ultrasonography. Paraurethral lesions may be excised transvaginally and intraurethral lesions should be excised via transurethral approach. Literature to date has indicated that leiomyoma seldom recur and demonstrate a non-invasive growth pattern.⁸

Fibroepithelial polyps (FEP) are benign tumors that present more frequently with obstructive voiding symptoms and dysuria. They can occur in upper and lower tracts of the genitourinary system. Though they present more frequently in males, they may arise from the female urethra and protrude through the meatus.² Resection should be done transurethrally and is usually sufficiently curative, as lesions rarely recur.⁹

Routine surveillance for recurrence may be done with serial bladder ultrasounds with a full bladder.¹⁰ In addition, routine surveillance for HPV lesions should include routine cystourethroscopy to monitor for recurrence of urethral lesions and for the presentation of new bladder carcinomas. Namiki et al describe a case report of bladder carcinoma development in a male patient 2 months after transurethral resection of urethral HPV lesions.¹⁰ Histopathological analysis detected HPV 58 in both condyloma and bladder carcinoma specimens. In a previous study by Maeda et al, HPV DNA was detected in 15% of 117 bladder carcinoma specimens and demonstrated that younger age was one of the independent factors for detection of HPV in bladder carcinoma.¹⁰

It is important that urethral lesions and masses be thoroughly evaluated for the presence of malignancy. In this case report, a urethral polyp was identified as HPV lesion with low-risk genotypes 6 and 11. Though this genotype portends a fairly good prognosis with respect to the gynecological literature, there is a paucity of reports in the literature on these unusual lesions in the female urethra. Consideration can be give to cystoscopic surveillance in these patients.

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