
CASE REPORT

Urethral Caruncle: A Diagnosis Conundrum in Teenage Girl: A case report

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ABSTRACT

Background: Urethral caruncle in young female is uncommon. Here we reported a case of it seen in our urogynaecology outpatient clinic which was surgically managed.

Case: An 18-year-old teenage girl presented with periurethral mass for few months. Suspicion of the diagnosis of urethral caruncle was made clinically and we proceeded with surgical excision of the mass under local anaesthesia. Histopathological examination confirms the diagnosis. This case showed that although the presentation was atypical and is rarely seen in teenagers, it should be considered as one of the differentials when dealing with vaginal mass besides urethral prolapse, urethral diverticulum, urethrocele or even malignancy.

Conclusions: Although urethral caruncle is more commonly associated with postmenopausal due to the hypoestrogenic state, it is important to integrate a clinical suspicion and decision for excision based on presenting symptoms.

Keywords: urethral, caruncle, female, young, adolescent.

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Introduction

Urethral caruncle being the most common benign mass of the female urethra and is usually asymptomatic. It can sometimes present with bleeding, pain or urinary symptoms. Conservative or surgical management will depend on individual cases. It is commonly seen in postmenopausal women due to the hypoestrogenic state and rarely in young women or children. Here, we reported a case of urethral caruncle in an adolescent girl who underwent surgical excision of the mass.

Case report

An 18-year-old, sexually inexperienced teenage girl complained of perineal mass that has been progressively increasing in size for three months. Other than discomfort while riding a motorcycle, she did not report any vaginal discharge or bleeding. She had no pain or difficulty on passing urine. Our further assessment revealed a 4 cm x 4 cm broad base pedunculated, firm, fleshy reddish mass arising from the left lateral urethral meatus (Fig. 1).



Fig. 1. Image showing mass arising from the left lateral urethral meatus.

It was non tender with no contact bleeding. The surface was smooth. Vaginal hymen was intact. No similar swelling seen elsewhere. No further investigation done due to its obvious nature. We directly proceeded with excision under local anaesthesia with 2% lignocaine local infiltration in the

outpatient clinic. Continuous bladder drainage was inserted prior to the procedure. The mass was completely excised using diathermy and its base sutured using absorbable polyglactine suture size 3/0. Patient was discharged home with bladder catheter in situ, antibiotics and analgesia. Urinary catheter was removed after a week. Histopathological examination (HPE) result reported the lesion demonstrated a benign reactive polypoidal lesion, covered by reactive epithelium and was composed of inflamed granulation tissue accompanied by mixed inflammatory cell infiltrate along with many congested and dilated vessel in which features were in keeping with urethral caruncle (Fig. 2).

She was seen back after 5 months, there was no recurrent of mass, she was asymptomatic and well (Fig. 3).

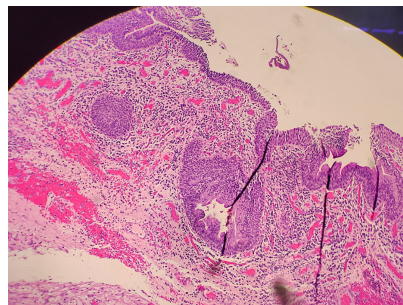


Fig. 2. Image showing the microscopic examination findings.



Fig. 3. Image showing no recurrent mass on follow-up

Discussion

Typically, urethral caruncles- described as fleshy outgrowth at urethral meatus only affect the female urethra. They are infrequently observed in young girls and most frequently affect middle-aged and elderly women⁽¹⁾. It is a vascular lesion of various sizes, sessile or pedunculated and is usually seen on the posterior lip of distal urethral meatus.

Urethral caruncles are usually asymptomatic and are typically discovered incidentally during pelvic examinations. Common symptoms include bleeding or observing blood on undergarments, bloody discharge, hematuria, pain, dysuria, or the presence of a lump^(2, 3).

As for our case, her only presenting symptoms were discomfort and the presence of a mass. A PubMed search (<https://pubmed.ncbi.nlm.nih.gov>) was performed on October 17, 2023, using search terms "urethral caruncle female" retrieved 68 results and none reported on caruncle in teenager. Miriam et al reported on 41 histopathologic characters of urethral caruncle in women between 28-87 years (mean age 68years) with 32% of them being asymptomatic, 37% pain symptom followed by hematuria (27%) and dysuria (20%)^(2, 4).

Urethral masses pose a diagnosis conundrum as management is dependent on the diagnosis. Its fleshy character can be mistaken as urethral prolapse, diverticulum, urethroceles, urethral varicosities, periurethral gland abscess, condyloma, cysts of Skene's glands and rarely, urethral carcinoma- primary urethral melanoma or transitional cell carcinoma. The latter will require more aggressive treatment approach for best chance of cure.

No single theory has been proposed that provides an adequate explanation for the exact aetiology and pathophysiology of the urethral caruncle. As this condition is almost exclusively seen in the extreme end of either postmenopausal or younger infants, it has been linked to estrogen insufficiency. Between birth and puberty, estrogen levels transition from being non-existent to reaching their maximum level, which remains relatively stable

until gradually decreasing towards the menopausal state which explained why urethral caruncle happen more common in these two age groups⁽⁵⁾.

Other possibilities of urethral irritation, trauma, and congestion of the urethra have all been identified as potential cause. It has also been linked to possible autoimmune phenomenon^(3, 4, 6, 7). In our case, the possible potential trigger might be chronic inflammation as young female urethra is prone to infection and inflammation.

Although clinical suspicion alone is sufficient, imaging modalities may have a role to assist in diagnosis. Transvaginal or tranperineal ultrasound of hypoechoic or heterogeneous solid masses located at periurethral area and exhibit blood flow signals on colour Doppler imaging is seen in urethral caruncle^(8, 9). It can be used as a valid non-invasive tool to differentiate various urethral and periurethral masses.

Asymptomatic urethral caruncle can be reassured. Symptomatic woman can be treated conservatively with warm sitz baths, topical oestrogen, and topical anti-inflammatory medications⁽²⁾. Surgery is reserved for large symptomatic lesions or not responding to conservative treatment, unclear diagnosis, or with atypical features.

Surgical excision was performed as she was symptomatic and affected her daily living activity-from constant rubbing and pressure when riding her motorcycle, which serves as her primary mode of transportation. This led her to opt for a swift and definitive approach to treatment.

Various surgical techniques have been described in the literature - pinching, snaring, ligating, cutting, cautery by heat, destruction with chemicals and fulguration. Although some of the techniques have been discontinued or not recommended as it carries complications such as extensive scarring leading to urethral stricture or no tissue biopsy provided, most of the patient treated with excision method have good outcome with low recurrence rate (3.5-7%)^(2, 4).

Cystourethroscopy is recommended prior to surgical intervention to rule out serious bladder and urethral abnormalities. There was also recommendation use of urethral catheter for few days to allow proper healing of the urethral mucosa to minimise complications⁽²⁾.

Other simple method reported in literature includes ligation of the base of a urethral caruncle with 1-0 silk, allowing it to shed off after 7–14 days and minimally invasive technique of transurethral plasmakinetic resection of urethral caruncle. Both techniques well tolerated by patient with shorter recovery and fewer complication^(10, 11).

Conclusion

Although it is rare, urethral caruncle should be included in differential diagnosis when managing periurethral mass in young female. Mainstay of treatment is surgical in which carry good satisfaction and outcome.

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Potential conflicts of interest

The authors declare no conflicts of interest.

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