





Review

British Association of Urological Surgeons (BAUS) consensus document for the management of benign female urethral lesions

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Objective

To provide a consensus document for the management of benign female urethral lesions.

Methods

The British Association of Urological Surgeons (BAUS) Female, Neurological and Urodynamic Urology (FNUU) Section created a consensus document to guide the management of the commonest of urethral swellings using expert consensus with a modified Delphi technique.

Results

Benign urethral lesions in females can include urethral mucosal prolapse, urethral caruncle, Skene's gland cysts and urethral diverticulum. They can present in a variety of ways including haematuria, lower urinary tract symptoms and voiding dysfunction, and can initially be overlooked or not recognised, resulting in delayed management.

Conclusion

This consensus statement led by the FNUU Section of the BAUS, in consultation with BAUS members and consultants working in units throughout the UK, aimed to create a comprehensive and pragmatic management pathway for the assessment, investigation and treatment of benign urethral lesions in females.

Keywords

urethral diverticulum, Skene's gland cysts, urethral mucosal prolapse, urethral caruncle, topical oestrogen use

Introduction

Once a swelling relating to the female urethra located in the anterior vaginal wall is recognised, a variety of possible urethral and vaginal conditions should be considered in the differential diagnosis. A common error is to describe any vaginal swelling as a 'Bartholin's cyst' when many possibilities exist. Examples are listed in Table 1. It is important to recognise different conditions and essential to exclude malignancy.

The majority of urethral swellings can be treated conservatively and few progress to needing surgical correction. Rarely, some lesions can present acutely as emergencies with voiding dysfunction, acute urinary retention and pain, which is seen more often with thrombosed urethral

mucosal prolapse. The assessment and management of the more commonly seen benign urethral lesions are detailed below.

Methods

The BAUS Female, Neurological and Urodynamic Urology (FNUU) Executive Committee is an elected group of urological surgeons with an interest in the field of female and functional urology, neurourology, urodynamics and reconstruction of the urinary tract. The committee has created consensus documents to guide the management of challenging clinical conditions. Following presentation of typical cases at the annual BAUS meeting in 2022, it identified that guidance on standardisation of assessment, investigation and management of benign urethral lesions in

Table 1 Examples of benign female urethral and anterior vaginal wall lesions.

Lesion	Examples
Urethral	Caruncle (quadrant mucosal prolapse) Complete mucosal prolapse Diverticulum Viral warts Endometriosis Benign tumours (squamous papilloma, leiomyoma, nephrogenic adenoma) Malignant tumours (urothelial, adenocarcinoma, clear cell and squamous cell carcinoma, melanoma, lymphoma, sarcoma)
Paraurethral	Skene's gland cysts
Vaginal	Cystocele Müllerian duct cysts Gartner's duct cysts
Clitoral/labial	Clitoral epidermoid Bartholin's cyst
Bladder/ureter	Ectopic ureterocele (cecoureterocele is a rare prolapsing ureterocele which tends to present early in life)

females would be useful. As some of these conditions are unusual and unsuitable for study within randomised controlled trials, these recommendations have been developed using key publications including existing guidelines (European Association of Urology), further review then discussion with key opinion leaders and the BAUS FNUU membership, using expert consensus with a modified Delphi technique. The documents were discussed by the committee, and then sent to BAUS council for final approval before presentation at the BAUS annual meeting and subsequent publication. The consensus statement relates to the management of the commonest of urethral swellings including urethral diverticula, Skene's gland cysts, urethral mucosal prolapse and urethral caruncle.

Assessment of Urethral/Anterior Vaginal Wall Lesions

History

Urethral lesions can present in various ways. A full clinical history should include assessment of LUTS (urgency, frequency, voiding difficulties, deviation of flow or urinary incontinence [UI]), the presence of haematuria (visible and non-visible), recurrent UTIs, vaginal discharge, dyspareunia and pain. The patient may report the presence of a palpable swelling or an awareness of fullness in the vagina, which may have an insidious or acute onset. A gynaecological history can be helpful (i.e., menstrual history or menopausal status and treatments received), as some conditions are associated with a low oestrogen state (genitourinary syndrome of the menopause), as well as any previous vaginal or stress UI (SUI) surgery, or history of obstetric trauma. The type of any previous surgery should be recorded; a urethral diverticulum may have been overlooked at the time of SUI surgery or be a consequence of surgery (i.e., prior injectable agents can result in a pseudo-diverticulum pocket).

Examination

Perform a chaperoned examination with inspection of the urethral meatus, palpation of the anterior vaginal wall, assess for any pain, firm masses (tumour or stones) and to establish if gentle compression results in discharge from the external urethral meatus (seen with some urethral diverticula). This should be conducted in the supine position and may be facilitated using a double-bladed speculum (also known as Sim's) to retract the posterior vaginal wall (in the lateral position if lithotomy stirrups are not available). Oestrogen status and the presence of vaginal atrophy should be noted. The abdomen should be assessed for a distended bladder. A cough test can assess the presence of clinical SUI.

Investigation

Further investigations will be dictated by findings and the context of presentation.

1. Urine dipstick \pm urine culture.
2. Flow rate and post-void residual measurement \pm multichannel urodynamics if there are associated urinary symptoms or voiding dysfunction.
3. The presence of haematuria should be investigated by cystoscopy and upper tract imaging \pm urine cytology as per established guidelines.
4. A hard/woody urethral mass or significant urethral or pelvic pain symptoms would warrant an urgent MRI of the urethra/pelvis and cysto-urethroscopy.

Specific Benign Urethral Lesions

Urethral Diverticula

These uncommon lesions of the urethra should be excluded as a diagnosis in anyone presenting with symptoms of urethral or anterior vaginal wall swelling associated with

discomfort, pain on intercourse (dyspareunia), urinary dribbling post micturition and /or recurrent UTIs, as well as LUTS, dysuria, UI and rarely, voiding dysfunction [1]. They are epithelialised outpouchings of the urethral mucosa, presenting as a swelling in 75% of patients and are most commonly located in the mid or proximal urethra (Fig. 1) [2]. There is usually a single sinus-type channel connecting them to the urethral lumen, which can sometimes be identified as an ostium or opening within the urethral lumen during cysto-urethroscopy. The prevalence is around 0.6–6% in the general population [3]. In symptomatic females, the incidence is up to 10%, presenting most commonly in the third to sixth decades of life with a mean age of 45 years [4,5]. Urethral diverticula are thought to develop due to repeated infections of a periurethral gland, which then ruptures into the urethral lumen to form a sinus, but in around a fifth of patients there is a history of urethral instrumentation, intervention or trauma. Different classification systems exist but the most pragmatic is to define as ‘simple’ or ‘complex’ (Table 2). Malignant change is thought to occur in 6% and histological subtypes are adenocarcinoma, squamous cell carcinoma, clear cell carcinoma or TCC [6]. These patients are highly likely to be symptomatic and in addition to the symptoms mentioned above can present with urethral bleeding and haematuria [7]. In these cases, suspicion is raised as the urethra can feel

Fig. 1 Urethral diverticulum in a catheterised patient.

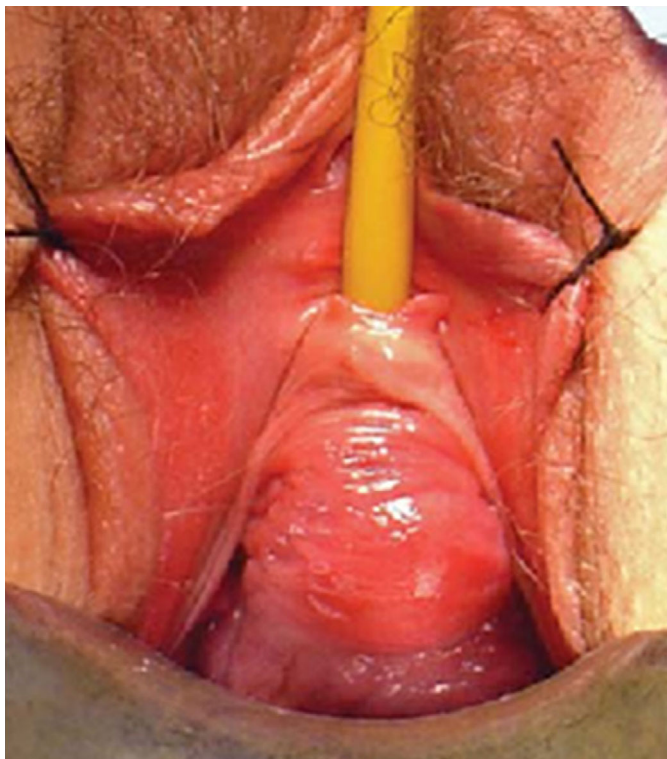


Table 2 Classification of urethral diverticulum by description.

Description	Characteristics
Simple	Proximal
Complex	Loculated
	>3 cm
	Previous pelvic/vaginal surgery
	Horseshoe/saddlebag
	Circumferential
	Multiple

woody or firm, and MRI and biopsy are indicated. Other complications can include rupture with fistulation into the vagina (Fig. S2) and stone formation.

Examination Findings

Patients should have a chaperoned examination of the perineum and vagina. The site and size of the swelling should be noted as well as gentle palpation or ‘milking’ to see if pus can be expressed *per urethra*, which can assist in the diagnosis (Fig. S1). This is only identified in ~25% of cases presenting with a palpable mass [8,9]. Stone formation can occur within diverticula and may also be palpated as a hard lump. Malignant change may also make the swelling feel firm or woody.

Investigation

1. Midstream urine dipstick test \pm urine culture to assess for presence of infection.
2. Cystoscopy is usually performed at the time of definitive surgery unless the diverticulum is complex and examination under anaesthetic may inform the surgery planned.
3. Videourodynamics are helpful if there are concomitant symptoms of bladder dysfunction or UI and may demonstrate the diverticulum on the voiding cysto-urethrogram phase.
4. MRI urethra/pelvis is the most accurate imaging method of diagnosis of a urethral diverticulum and is considered the ‘gold standard’. T2-weighted imaging is acquired after the patient is asked to void to increase the chance of filling up the diverticulum pocket(s) (Figs 2 and S3). The use of gadolinium-enhancement can assist diagnosis if there is suspicion of malignancy (see Table 3 for suggested MRI protocol).
5. Alternatively, translabial ultrasound can be offered if there is availability of an experienced uro-radiologist and if the patient has any contraindications to MRI.
6. If there is suspicion of malignancy after gadolinium-enhanced MRI, proceed to biopsy of the diverticulum. This may be transurethral or transvaginal

Fig. 2 Coronal and sagittal T2-weighted MRI views of urethral diverticulum seen in Fig. 1.

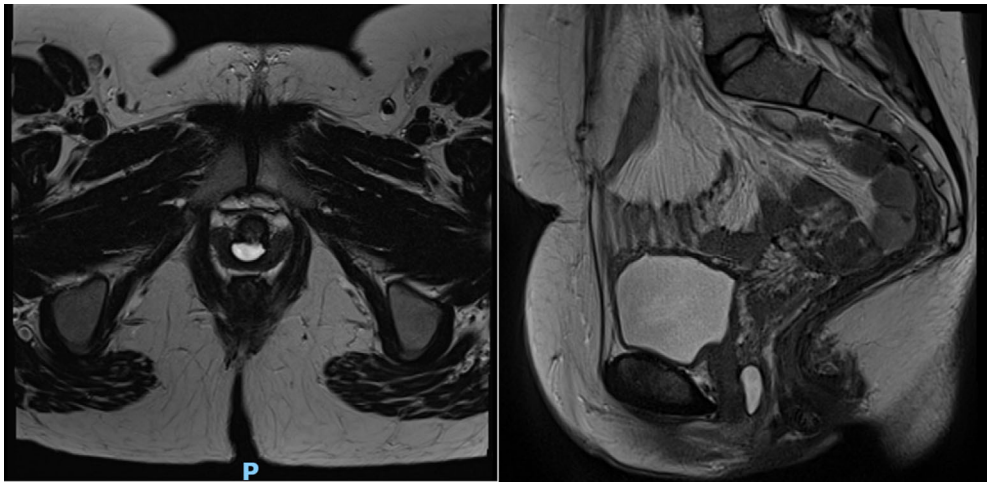


Table 3 Suggested protocol for post-void MRI.

T2 High Resolution – Sagittal – 35 slices – 3 mm/0.3 mm
T2 High Resolution – Coronal – 35 slices – 3 mm/0.3 mm
T2 High Resolution – Transverse – 40 slices – 3 mm/0.3 mm
T1 Transverse pelvis – 40 slices – 3.5 mm/0.4 mm
PDSPiR Transverse – 40 slices – 3.5 mm/0.4 mm.

PD, proton density; SPiR, Spectral Presaturation with Inversion Recovery.

- after multidisciplinary team (MDT) discussion with Uro-oncology.
7. All patients with diverticula should be seen by a subspecialist and discussed at a dedicated pelvic floor/functional MDT even if conservative management is planned.

BAUS Recommendation

1. Complete a comprehensive history and perineal examination in the assessment of a urethral diverticulum. Note that the classic triad of the ‘3 D’s’ of urethral diverticula (Dysuria, Dyspareunia and Dribbling) are only evident in ~23% of individuals.
2. Investigate with T2-weighted post-void gadolinium-enhanced MRI scan of the urethra.
3. Ensure review by subspecialist and discussion of management in dedicated pelvic floor MDT.

Treatment

The patient should be counselled regarding the diagnosis and options for treatment, which are conservative vs surgical removal.

Surgical Management

Due to the low frequency of such lesions, patients are usually best served by referral to a tertiary/high-volume centre for

management. Such centres should be performing sufficient numbers of urethral surgical procedures yearly to maintain competency. Diverticulectomy is the ‘gold standard’ surgical treatment. More complex diverticula are best dealt with in tertiary centres.

Other approaches that are described include marsupialisation and endoscopic incision and are not advocated. Marsupialisation involves vaginal incision into the urethral swelling with its walls being sutured open to ensure drainage. This approach is described for symptomatic pregnant patients to decompress swelling prior to delivery if large bore needle aspiration is insufficient. However, there is concern about marsupialisation leading to sphincteric damage and formation of urethro-vaginal fistula and therefore should be avoided. Patients should be reassessed post-partum and definitive surgery offered if indicated [6]. Endoscopic incision (urethral incision using resectoscope) is rarely performed and there is little evidence for its use.

The principles of urethral diverticulectomy surgery includes the creation of well-vascularised vaginal flaps; preservation of peri-urethral fascia for closure; removing all of the diverticular tissue; closing the ostium/ostia (over a urethral sound or catheter); achieving a watertight closure; closing the incision in a multilayer fashion with no overlapping suture lines; preserving sphincteric tissue. The diverticulum is sent for histological analysis to exclude malignancy.

A Martius (labial fat pad) flap can be interposed if the diverticulum is complex or recurrent; if the defect is large; if the flaps are deficient for closure; or if future SUI surgery such as an autologous fascial sling is likely.

Antibiotic prophylaxis is recommended and should be guided by local microbiology policy and any available sensitivities. It should include coverage of urinary pathogens and vaginal

anaerobes. The duration of urethral catheterisation postoperatively will depend on the complexity of the repair (2–3 weeks) and if there are concerns over healing, a voiding cysto-urethrogram can be arranged at the time of planned catheter removal. Risks of urethral diverticulectomy include recurrence, pain, new persisting SUI (~12%), urinary retention, UTI and urethral stenosis.

BAUS Recommendation

1. The optimal surgical option is referral to an experienced high-volume centre for excision of urethral diverticulum \pm Martius labial fat pad flap depending on the size of the repair.
2. Complex diverticula should be referred to a tertiary centre.
3. Endoscopic incision and marsupialisation of urethral diverticulum are not recommended.

Controversies

Asymptomatic Diverticulum Management

Urethral diverticula can be asymptomatic with no suspicious features, found incidentally during examination, on MRI pelvis or at cystoscopy. Most clinicians would advocate excision given the risk of atypical change and development of malignancy [7]. The dilemma then ensues, for the asymptomatic patient if they wish to undergo surveillance. The natural history of benign lesions is unknown. No clear guidance for monitoring exists and opinions vary making consensus challenging. Hence, there must be careful discussions regarding the risk of malignancy being mindful that urethral diverticulum carcinoma is highly likely to produce symptoms [8]. If the patient opts for surveillance, then a suggested protocol would be clinical review with further MRI (preferable) or transvaginal ultrasound yearly for up to 3 years if simple or up to 5 years if more complex or complicated. The patient should be encouraged to make contact early if subsequently, any LUTS develop or changes in the swelling become apparent. Development of urethral bleeding or haematuria or urethral pain are of particular concern and should be reported by the patient to their GP for 2-week-wait referral. Otherwise, the interval between further review and imaging should be bespoke to the patient as part of a shared decision making process, depending also on the complexity of the diverticulum.

BAUS Recommendation

1. Offer clinical review and re-imaging for females wishing to undertake surveillance of a confirmed urethral diverticulum. This should be for up to 3 years if simple or 5 years if complex, as there is a potential low risk of developing malignancy in an asymptomatic urethral diverticulum.

2. Clear advice about urgent reporting of the development of symptoms should be given particularly those of urethral bleeding/haematuria and pain which should prompt further review.
3. Discussion of the management of patients undergoing surveillance should be undertaken at the specialist pelvic floor MDT.

Management of Concomitant SUI

Many females presenting with a urethral diverticulum diagnosis have concomitant SUI (up to 60% of females). Urethral diverticulectomy can cause new or worsen existing SUI; however, it can also be difficult to tell preoperatively if SUI is due to urethral hypermobility, sphincteric incompetence, and/or simply fluid inside the diverticulum pocket draining out during a straining or coughing effort (sometimes termed pseudo-UI). There is some limited evidence to support the role of a concomitant anti-UI procedure at the time of urethral diverticulectomy, and this can be considered for severe urodynamically confirmed SUI. However, it is also valid to reassess after urethral diverticulectomy surgery and offer a deferred continence operation if still required [6,10,11].

Skene's Gland Cyst

These cysts arising from the paired paraurethral glands at the distal end of the urethra are sometimes difficult to differentiate from urethral diverticula (Figs 3 and S4). They can arise during pregnancy and can cause voiding dysfunction and, rarely, urinary retention.

They tend to occur in a distal and lateral position on the urethra, and do not usually communicate with the urethra. They can be more evident on T1-weighted MRI (Fig. S5).

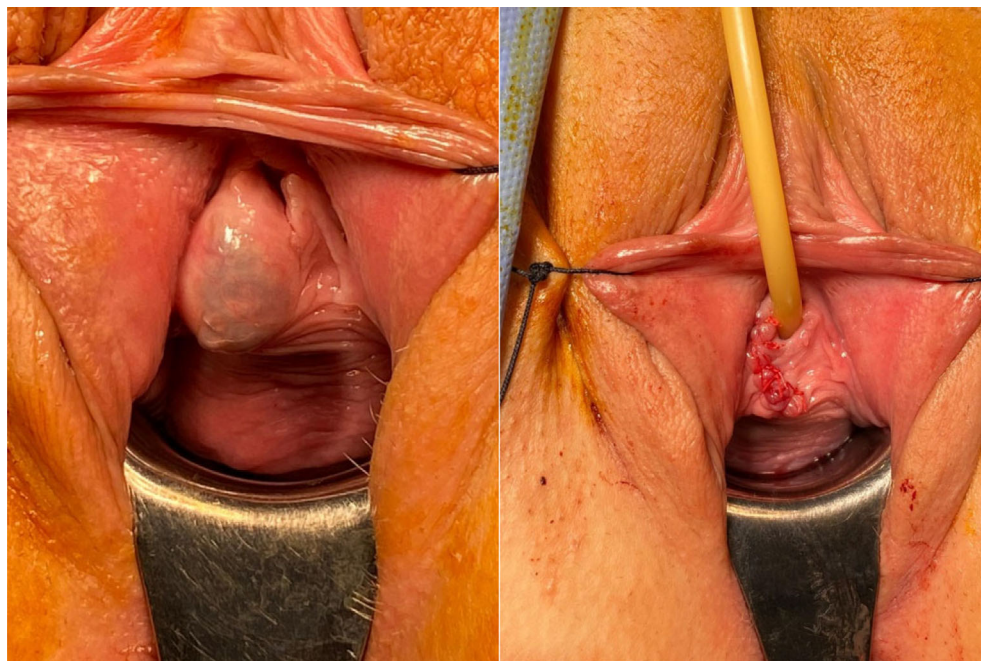
The management of a Skene's gland cyst has a similar approach to that of urethral diverticula. If found coincidentally and patients are asymptomatic, there is a greater case for surveillance as the risk of malignancy is extremely rare.

The surgical approach is similar to urethral diverticulectomy. If there is minimal dissection around the urethra and if there is no communication with the urethral lumen, a Martius fat pad flap is not needed. A urethral catheter can be left temporarily postoperatively and removed after around 3–5 days.

BAUS Recommendation

1. Offer excision of symptomatic Skene's gland cyst.
2. If asymptomatic or the patient does not want surgery, then surveillance by examination or by patient-initiated follow-up if any change in symptoms can be considered.

Fig. 3 Skene's gland cyst before (left image) and after (right image) surgical excision.



Management of Skene's Gland Cyst and Urethral Diverticulum During Pregnancy

Urethral diverticula and Skene's gland cysts can present and enlarge during pregnancy, and they have been reported as causing urinary retention as well as obstructed labour (pelvic dystocia; Fig. S6). Urethral diverticulectomy during pregnancy is thought unwise as there is a greater risk of haemorrhage (resulting from venous congestion), also the subsequent trauma of vaginal delivery risks wound breakdown, infection and possible development of a urethro-vaginal fistula [12]. Therefore, antibiotic treatment, aspiration or incision and drainage are recommended with most patients requiring formal excision after delivery.

Urethral Mucosal Prolapse and Urethral Caruncle

Urethral mucosal prolapse (Fig. 4) is defined as a circular eversion of the urethral mucosa through the urethral meatus. In comparison, a urethral caruncle is defined as a small single quadrant urethral prolapse typically affecting the posterior urethral meatus (Fig. S7).

Caruncles are most common in post-menopausal females although some cases are reported in pre-pubertal girls and younger females. They are thought to arise due to reduced oestrogenisation of urethral smooth muscle leading to lack of support for the urethral mucosa. This urogenital atrophy allows the mucosa of the urethra to prolapse. They present in a variety of ways. Most commonly they are incidental findings on examination or flexible cystoscopy when

Fig. 4 Patient with urethral mucosal prolapse presenting with lump in vagina.



investigating non-visible haematuria. However, they can cause visible bleeding especially in the anti-coagulated patient often reported after wiping the perineum post void. They can cause

Table 4 Comparison of the features of urethral lesions.

Feature	Urethral diverticulum	Skene's gland cyst	Urethral mucosal prolapse	Urethral caruncle
Risk factors/aetiology	Iatrogenic/incidental finding; around 20% related to previous urethral intervention or trauma	Can arise during pregnancy	Post-menopausal Constipation	Post-menopausal
Location on urethra	Any part of urethra; most common distally	Tend to be distal	Circumferential lesion at external urethral meatus	Small lesion protruding from external urethral meatus
Pain	Tenderness, dysuria, dyspareunia	If infected	Yes, if thrombosed	Rare
Bleeding/discharge	Discharge per urethra	Can discharge via or alongside urethra if infected	Spotting of blood on wiping after void or if local trauma	Spotting of blood on wiping after void or if local trauma
Voiding dysfunction/BOO	Yes, in some patients	Yes, in some patients	Possible if significant size/thrombosed	Rare
Radiology	Post-void T2-weighted MRI	MRI post void. May be more evident on T1	Not required unless diagnosis uncertain	Not required unless diagnosis uncertain
Communication with urethral lumen	Yes	Rarely	No	No
Associated symptoms	Dribbling post void Vaginal lump noticed	Deviation of urinary flow Vaginal lump	Urethral/vaginal lump	Urethral/vaginal lump
Risks	6% risk of malignancy	Unknown risk but reported	Can thrombose/infarct	Minimal

dysuria if irritated and can present as a palpable mass. Table 4 compares the features of different urethral lesions.

Examination involves close inspection of the lesion, assessment of the urethra and bimanual examination. If there are any suspicious features, the inguinal lymph nodes should be examined. Investigations should include urine analysis ± culture. Further investigations will depend on individual symptoms and can include flexible cystoscopy, rigid cystourethroscopy, ultrasound/CT or hysteroscopy if post-menopausal vaginal bleeding is suspected. For more complex urethral lesions, MRI can offer additional detail. If there is any suspicion of a malignant pathology, tissue biopsy or surgical excision biopsy is advocated.

Acute and Emergency Presentations

A complete circular (circumferential) urethral mucosal prolapse is more prone to thrombosis leading to obstruction, voiding dysfunction and pain (Fig. 5). Patients report a sudden onset of something 'popping out' of the urethra, sometimes associated with straining or heavy lifting. This can be accompanied by 'vaginal bleeding' or spotting, pain, a new perception of a vaginal mass, haematuria or dysuria. The typical clinical appearance is a purplish or red, oedematous doughnut shaped protrusion of mucosal tissue surrounding the urethral meatus, which often is very tender on palpation. The pain from this ischaemic tissue can be severe and patients may also present in urinary retention (Fig. S8). It is a clinical diagnosis and imaging is usually unnecessary being only required if another condition is suspected.

Fig. 5 Initial emergency presentation voiding dysfunction, pain and UTI associated with a thrombosed urethral mucosal prolapse.



Management of Small Urethral Mucosal Prolapse and Urethral Caruncle

If the lesion is asymptomatic, then no treatment is required. The lesion and their associated symptoms commonly respond to topical oestrogen treatment and/or Sitz baths (shallow bath containing magnesium sulphate or 'Epsom' salts). It is thought that a full circular mucosal prolapse represents a

Table 5 Topical oestrogen replacement alternatives.

Formulation	Administration	Frequency of administration
Pessaries containing oestradiol: Vagifem (10 µg) and Vagifem (10 µg)	Inserted into the vagina using an applicator	Daily for first 2 weeks and then twice weekly
Creams containing oestradiol: Ovestin (500 µg)	Inserted into the vagina with an applicator Can also be applied to external genitalia	Daily for 2 weeks then twice weekly
0.01% oestradiol (500 µg)	Inserted into the vagina with an applicator	Daily until symptoms improve and twice weekly thereafter
Gel: Blissel (50 µg) (low dose)	Inserted into the vagina with an applicator	Daily for first 3 weeks and twice a week thereafter
Ring: Estring (oestradiol), a soft flexible silicone ring	Inserted into the vagina by the patient or by health professional if preferred	Needs replacing every 90 days

similar but more advanced defect and they can be treated in the same way.

Topical oestrogen can be administered as a pessary, gel, cream or vaginal ring either as oestradiol or oestradiol and its use is summarised in Table 5.

After starting topical oestrogen, review of the patient is recommended after 3 months but use can be continued indefinitely, and patients do not need to take progesterone or have endometrial thickness estimated [13]. There is emerging opinion of the safe use of topical oestrogens in the long term even in the context of a prior history of oestrogen-receptor-positive breast cancer, so this should be discussed with the patient, her oncologist and a menopause specialist [13].

There are limited data to suggest that females with low-grade, early-stage endometrial cancer may consider systemic or topical oestrogens. However, menopausal hormone therapy may stimulate tumour growth in patients with more advanced disease, and non-hormonal approaches are recommended [14].

Management of Larger, Complete Circular Urethral Mucosal Prolapse

Some of these lesions will respond to topical oestrogen treatment and so a period of conservative management is worthwhile with review as above. If this is unsuccessful, various techniques have been described in the literature for the management of larger, complete circular urethral mucosal prolapse; where treatment is required in the acute setting it is always surgical. A commonly used technique is the modified Kelly Burnham or four quadrant excision technique in which stay sutures are placed in four quadrants of prolapsed mucosa within the urethral lumen and each quadrant is incised up to the mucocutaneous junction and edges subsequently approximated (Fig. S9) [15]. The original Kelly Burnham technique involves insertion of a urethral catheter with excision of the mucosal ring over the catheter then suturing of the urethral mucosa to the perimeatal skin margin [16]. Typically the catheter is then left *in situ* for a week.

BAUS Recommendations

- Options for treatment of urethral mucosal prolapse and caruncle lesions include no intervention, topical oestrogen treatment, or surgical excision if unresponsive to topical oestrogen and the lesion is symptomatic or large.
- Presentation of an acutely thrombosed urethral mucosal prolapse would usually mandate urgent surgical excision by a sub-specialist.

Conclusion

Urethral swellings are unusual and can present in many ways often with delay in diagnosis. Careful history taking, examination and an index of suspicion are key to their diagnosis. Appropriate imaging using MRI with interpretation from an experienced and engaged radiologist is essential to inform appropriate management by a suitably trained urological surgeon.

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Disclosure of Interests

The authors declare no conflicts of interest.

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Abbreviations: FNUU, Female, Neurological and Urodynamic Urology; MDT, multidisciplinary team; (S)UI, (stress) urinary incontinence.

Supporting Information

Additional Supporting Information may be found in the online version of this article:

Fig. S1. Pus expressed by manual compression of the urethral diverticulum (left image). Ostia visible at around the 6 o'clock position in the urethral lumen on cysto-urethroscopy (right image).

Fig. S2. Complex horseshoe diverticulum (coronal and sagittal views) on post-void T2-weighted MRI pelvis. The fluid seen in vagina suggests fistulation confirmed at cystoscopy.

Fig. S3. Complex circumferential diverticulum (coronal and sagittal views) on post-void T2-weighted MRI pelvis.

Fig. S4. Skene's gland cyst (as seen in Fig. 3) on T2-weighted MRI pelvis (transverse and sagittal views).

Fig. S5. Skene's gland cyst on T1- (left image) and T2-weighted (right image) MRI on transverse view. Containing more proteinaceous fluid, the cyst on the T1 view is 'brighter'.

Fig. S6. Skene's gland cyst causing urinary retention in pregnancy on sagittal view on T2-weighted MRI pelvis.

Fig. S7. Image of a urethral caruncle (with permission from *UROLOGY NEWS*).

Fig. S8. Thrombosed urethral mucosal prolapse.

Fig. S9. View after excision of symptomatic prolapse urethra; mucosal prolapse with excised 'doughnut' of tissue.