

Chapter 10

Urethral Bleeding

Paolo Gontero

Abstract Urethral bleeding is a relatively common reported event. Different etiologies characterize this symptom in males and females. In the male patient, urethral bleeding may suggest a urethral injury requiring urgent hospital referral. Other common causes of male urethral bleeding are linked to sexually transmitted diseases such as urethritis and condylomata of the urethral meatus. In a significant proportion of patients, the etiology of urethral bleeding will remain unknown, yet a urological referral is advisable to rule out the rare possibility of urethral neoplasms. In the female patient, it is usually more difficult to ascertain the urethral origin of bleeding because of possible confusion with an underlying gynecological (vulvovaginal or uterine) disease. Urethral examination usually helps to rule out benign conditions such as caruncles and diverticula as well as the rare occurrence of urethral neoplasms. In both sexes, the presence of urinary incontinence makes the differential diagnosis with hematuria difficult; hence, patients should be investigated accordingly. Unusual sexual practices that involve transurethral insertion of traumatic foreign bodies should always be kept in mind when considering urethral bleeding. A practical algorithm is provided to help the general practitioner in making decisions about female and male urethral bleeding.

Keywords Urethral bleeding • Urethral injury • Caruncle • Urethral condyloma • Urethral cancer

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Introduction

Urethral bleeding is defined as the occurrence of bleeding from the urethra separate from micturition. Patients should be asked to describe the circumstances when they noticed urethral bleeding in order to make sure they are not describing an episode of hematuria.

In a male patient, blood stained underwear in the area that is in contact with the penis is highly suggestive of urethral bleeding, after lesions in the genital skin or the gland have been excluded. Sometimes the patient has noticed one or more drops of blood pouring out of the urethral meatus not during episode of micturition. Spontaneous bleeding from the urethra implies that the site of origin of bleeding is distal to the striated sphincter, i.e., comprised in the bulbar, penile, or glandular urethra.

In the female, it is usually difficult, based only on the history of the patient, to discriminate between bleeding of uterine, vaginal, or vulvar origin (the far more common causes of bleeding) and urethral bleeding. A careful gynecological examination will help in the differential diagnosis.

For both sexes, when urine incontinence coexists, it becomes difficult to rule out bleeding from the urinary tract; hence, the patient should be investigated for hematuria.

Hints to Find a Cause for Urethral Bleeding

Table 10.1 lists the most common causes of urethral bleeding along with particular characteristics relating to the patient's history and the examination. It should be noted that, in spite of all the diagnostic investigations, in the majority of cases, the precise etiology of urethral bleeding will remain unknown.

The most common situation is minor trauma of the bulbar-penile urethra, usually occurring after the urethra is hit by a kick at the level of the penis or perineum. If the patient is able to void his bladder without significant pain and the urethral bleeding rapidly self-resolves, conservative management can be safely adopted. Any more complex situation should be referred to the A&E.

The management of complex urethral injuries is usually conservative, leaving a transurethral or suprapubic catheter in place. Complete urethral lacerations, particularly when associated with severe bleeding, may be treated with immediate surgical realignment of urethral stumps. Most urethral injuries will heal with a urethral stricture causing obstructive urinary symptoms. This complication needs to be promptly recognized, and the patient should be sent to the urologist for treatment.

Management of Urethral Bleeding in the GP's Office

Comments About Flowchart 10.1

1. A male patient describing urethral bleeding should be asked about the circumstances in which the symptom occurred (urethral injury, masturbation practices) and whether other symptoms are associated (chiefly urinary symptoms such as

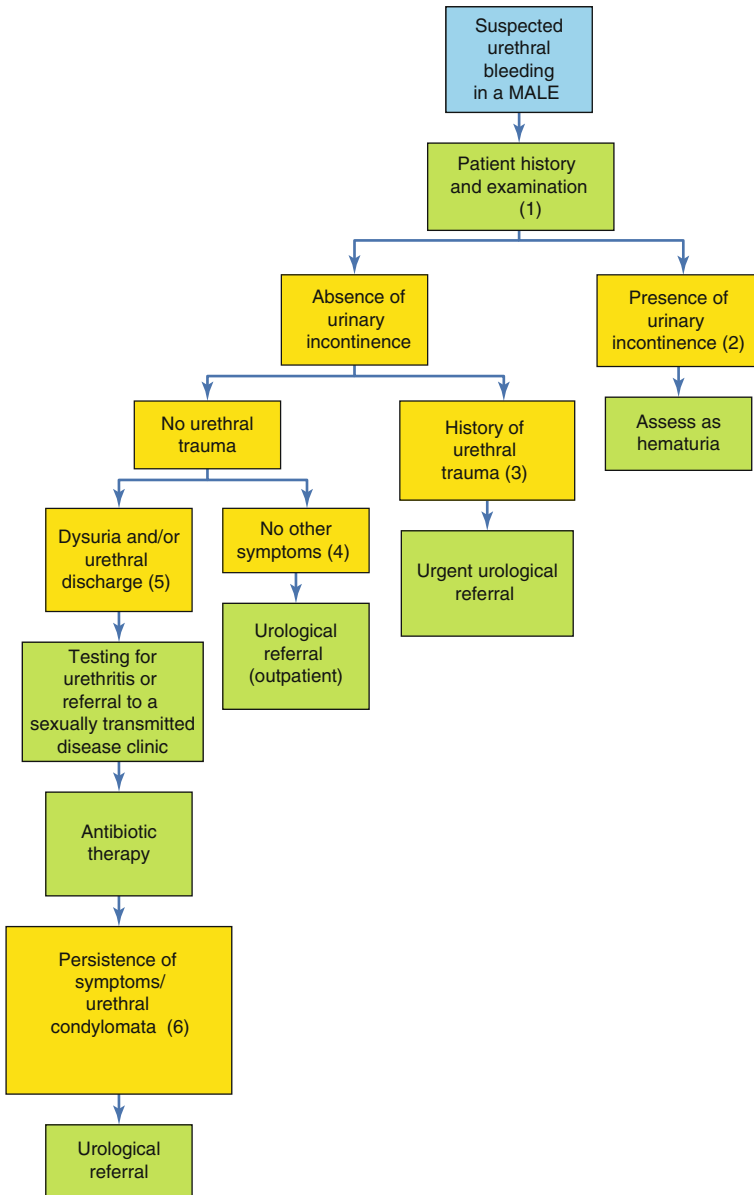
Table 10.1 Most commonly identifiable causes of urethral bleeding and clinical characteristics based on patient's history and examination

Sex	Disease	Patient's history and/or symptoms	Examination findings
Male	Urethral trauma ^a	History of blunt trauma to the bulbar urethra (straddling an object, kick in the perineum, unusual sexual or masturbation practices, in association with penile fracture), failed attempt at catheterization	Perineal and/or penile bruising/hematoma, urine retention
	Urethritis	Patient's reported sexual behavior at risk for sexually transmitted diseases and/or urethral discharge, dysuria	Urethral discharge on inspection or during milking of urethra
	Condylomata ^b	Usually painless, occasionally dysuria	Warts at the external urethral meatus
	Urethral tumors	(Rare), dysuria, obstructive urinary symptoms	Palpable urethral hardness or nodules
Female	Calculus impacted in the urethra	History of renal colic, dysuria, obstructive urinary symptoms, acute urinary retention	Palpable induration, circumscribed at a specific level of the urethra, usually painful
	Urethral caruncle ^c	Elderly, intermittent bleeding, occasionally dysuria, feeling of a lump at the urethral meatus	Polypoid, reddish lump, highly vascularized, located at the external urethral meatus
	Urethral diverticulum	Terminal dribbling, dysuria	Soft palpable bulging on the urethral surface
	Urethral tumors	(Rare), dysuria, obstructive urinary symptoms	Palpable urethral hardness or nodules

^aMajor urethral trauma involving pelvic fracture and thus located at the level of the posterior urethra is usually managed in an emergency department, in the context of a polytraumatized patient, and thus these patients are unlikely to be seen in the GP's office. Occasionally a male patient may come to the GP's office complaining of urethral bleeding after a blunt traumatic injury to the urethra, which occurred while straddling an object or as a consequence of a kick in the perineum. The possibility of unusual masturbation practices should always be kept in mind. Psychiatric patients may self-injure their penis or urethra using penetrating objects. It is essential to find out whether the patient has been able to spontaneously void his bladder. Inability to do so in the presence of a strong desire to urinate is highly suggestive of a urethral fracture (partial or complete). A butterfly perineal hematoma (this may not be present at the beginning but will rather manifest itself only the following day) is a further confirmation of a urethral injury. In this situation, any attempt to insert a transurethral catheter should be left to the specialist and preferably in an A&E context due to the high risk of misplacing it in a "false" urethral passage. If the patient is in pain because of urine retention, insertion of a suprapubic catheter represents a safer alternative

^bGenital warts (condylomata) are viral sexually transmitted diseases presenting as villous growths usually located at the level of the glans and/or foreskin. Occasionally the disease can occur at the level of external meatus or fossa navicularis. Dysuria usually accompanies this presentation. Diagnosis and treatment consist of urethroscopy with electrocoagulation or laser coagulation of the villous growths

^cUrethral caruncles are benign fleshy outgrowths at the urethral meatus, occurring primarily in postmenopausal women. They are generally thought to result from prolapse of a distal segment of the urethral mucosa probably as a consequence of estrogen deficiency. Histologically, they contain a core of blood vessels surrounded by hyperplastic transitional or squamous epithelium, hence their propensity to bleed



Flowchart 10.1 Urethral bleeding in the male

dysuria, frequency, difficulty in passing urine, and so on). Discussing sexual history will help to know whether to suspect sexually transmitted diseases. Inspection of the external genitalia is aimed at excluding penile or perineal hematomas (suggestive of trauma), ulcerations on the genital skin, and lesions of the glans

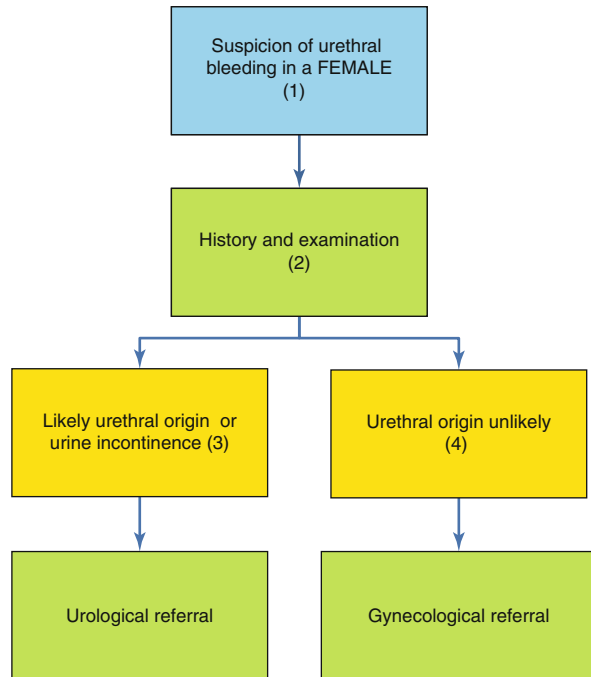
and the urethral meatus. Milking of the urethra allows the GP to exclude the presence of urethral discharge. Indurations or nodules at the level of penile and bulbar urethra can be felt with palpation.

2. If patient has a history of urinary incontinence, it may be difficult to ensure that the blood staining the pad or seen coming out of the urethra is not actually originating from the urinary tract above the urethral sphincter. In this case, the presence of hematuria cannot be ruled out and the patient should be investigated accordingly (see chapter on macroscopic hematuria).
3. If urethral bleeding is the consequence of a urethral injury, some degree of urethral disruption has occurred. The possibility of self-inflicted urethral trauma by psychiatric patients or as a consequence of masturbation practices should always be suspected. It is imperative to refer the patient to the A&E unit, particularly when urinary difficulties or penile and perineal hematoma are associated. Any suspicion of the presence of foreign bodies in the urethra or the bladder can be ruled out with a simple X-ray of the pelvis. Conservative management without hospital referral can be adopted in cases of minimal and rapidly self-resolving bleeding with no urinary difficulties. The patient should be counseled on the significant risk of developing a urethral stricture following any urethral trauma accompanied by urethral bleeding.
4. When urethral bleeding is not accompanied by other symptoms, no traumatic event is reported, and no sign of urethral diseases can be found during examination, the patients should firstly be reassured. The cause of the disease will most probably remain unknown. A urological referral is however wise to rule out the rare occurrence of a urethral polyp or urethral carcinoma by an endoscopic evaluation of the urethra (urethroscopy).
5. Dysuria associated with urethral discharge leads to the suspicion of urethritis. Testing for gonorrhea, chlamydia, and gram stain for gram-negative diplococci and polymorphonucleates is recommended. This can be done on a sample of urethral discharge obtained through urethral milking or endourethral swab. Chlamydia is currently more accurately detected via a nucleic acid amplification test on a sample of the first-catch urine. Alternatively, patient with suspected urethritis can be referred to a sexually transmitted disease clinic.
6. Persistence of urinary symptoms and urethral bleeding after antibiotic therapy warrants a urological referral. The same applies to condylomata detected at the urethral meatus, which are usually managed with endoscopic evaluation of the urethra, biopsy for viral subtyping and fulguration.

Comments About Flowchart [10.2](#)

1. The diagnostic algorithm in cases of suspected urethral bleeding in a female can be extremely simplified, focusing on deciding the most appropriate specialist for referral.
2. History and examination of the patient should be oriented to determining whether the bleeding is more likely to be due to a urethral disease or has a genital (uterus, vaginal, or vulvar) origin. The female urethral meatus should be carefully inspected

Flowchart 10.2 Urethral bleeding in the female



for the presence of urethral caruncles or urethral polyps. Any abnormality of the whole urethra can be felt by digital inspection of the anterior vaginal wall. A lump or induration of the urethral contour suggests a urethral origin. Vulvar inspection and digital examination of the vagina and cervix can help to identify genital sources of bleeding.

3. Any abnormality during the inspection of the urethral meatus or following digital examination of the anterior vaginal wall warrants a urological referral. A urethral caruncle usually presents as a reddish, soft, polypoid growth protruding from the urethral meatus. Urethral diverticula or paraurethral cysts (arising from embryological Mullerian remnants) are not uncommon findings and usually appear as lumps bulging from the urethra, with a regular surface and of soft consistency. Primary or metastatic urethral neoplasms are rare and appear as irregular, hard alterations of the urethral profile. Incontinent patients, like their male counterparts, should be investigated for hematuria to rule out the possibility of bleeding from the urinary tract. Bleeding from the urethra may often be associated with various urinary symptoms, unlike genital bleeding.
4. When history and examination of the patient are in keeping with a low probability of urethral origin of the bleeding (no urinary symptoms with a normal-looking urethral meatus and absence of palpable urethral abnormalities in a continent patient), it may be reasonable to refer the patient to the gynecologist in the first instance. This is particularly true when a genital source of bleeding is clearly demonstrated.

Conclusions

Urethral bleeding is a urological symptom to be managed with a careful history-taking and a scrupulous clinical examination in the GP's office. By doing so, the majority of identifiable underlying etiologies can be suspected. The rare possibility of a urethral malignancy should always be kept in mind. It is advisable to refer most male patients to the urologist. The choice of the most appropriate specialist referral for the female patient – urological or gynecological – depends very much on the findings of the genital examination.

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