Male Stress Urinary Incontinence

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6.1 Introduction

Stress urinary incontinence (SUI) is the involuntary leakage of urine with exertion or maneuvers that increase intra-abdominal pressure (coughing, sneezing, etc.) as a result of inadequate bladder outlet resistance. Stress urinary incontinence is not a common problem afflicting the general male population; however, it is encountered in urological practice and has major implications for patient's quality of life [1]. In order for a male to develop SUI, there must be dysfunction of both the internal urinary sphincter and the external urinary sphincter [2]. There are many etiologies that may cause disruption of the bladder outlet in males, the most common being iatrogenic in nature. Less commonly, SUI is encountered following pelvic trauma and disruption of the posterior urethra. Congenital neurogenic disorders (myelodysplasia) and acquired neurogenic disorders (multiple sclerosis) may also contribute to the development of SUI. Finally, unresolved urological conditions from infancy may be another risk factor for stress incontinence [3].

SUI in the male is most commonly encountered following radical prostatectomy. Nearly all patients who undergo radical surgery for prostate cancer have immediate SUI postoperatively; however, the number of patients who remain incontinent has been the subject of continued debate. Although higher rates were seen in the past, contemporary studies have reported persistent postprostatectomy incontinence ranging from 8 to 48 % [4–7]. Minimally invasive and nerve sparing approaches have been purported to account for this improvement in functional outcomes; however, methods to obtain and define incontinence are heterogeneous among available studies [8, 9]. Patients undergoing surgery for benign prostatic hyperplasia may also be at risk of postoperative incontinence. The incidence of urinary incontinence following prostatectomy for benign disease has been reported to be 1–3 %, while urinary incontinence following transurethral resection of prostate has been reported to be between 1 and 5 % [3, 10, 11]. The incidence of urinary incontinence increases dramatically in patients who had received radiotherapy prior to their outlet procedure. In one study, 25 % of patients experienced urinary incontinence in this setting (SUI, urge urinary incontinence, or both) [12].

In most men with postprostatectomy incontinence, the primary defect lies in the bladder outlet. Disruption of the sphincteric continence mechanism during surgery leads to stress incontinence in the postoperative period [13]. However, up to 40 % of men with postprostatectomy incontinence have mixed incontinence, where in addition to SUI, patients may present with bladder dysfunction (overactive bladder, decreased compliance, detrusor underactivity) [14, 15]. Only 3 % of patients with postprostatectomy incontinence have isolated bladder dysfunction causing their symptoms [13]. Although intrinsic urinary sphincter deficiency is the primary etiology for most postprostatectomy patients, it is imperative to elucidate all of the possible etiologies to the patient's complaint of incontinence.

6.2 Evaluation

When evaluating males with SUI, a thorough history and physical examination is critical. A focused history and comprehensive assessment of the patient's lower urinary tract symptoms should be performed in the initial evaluation.

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The severity of incontinence may be graded between grade I and III based on history:

Mild (grade I) incontinence occurring with coughing and sneezing
Mild (grade II) occurring with minor exertion like walking
Severe (grade III) occurring during minimal to no exertion [9]

A subjective measure of the amount of urine lost daily, pads changed, or diapers changed daily should be documented. The presence and duration of diabetes mellitus, preceding neurological pathology, history of radiation, and pelvic trauma should be noted. If the patient underwent radical pelvic surgery, the history should focus on an assessment of urinary tract symptoms preceding surgery as well as the patient's current complaints. As mentioned earlier in the chapter, patients may present with mixed incontinence following surgery some of which may be the result of preceding bladder dysfunction or obstruction.

Assessment of quality of life can be performed using a number of validated questionnaires including I-QoL (incontinence quality of life questionnaire) and ICIQ-SF (international consultation on incontinence questionnaire short form) [9]. Quality of life information should be assessed as one study found that pad weight correlated with the degree of patient dissatisfaction with the condition [16]. Physical examination should include neurologic evaluation as well as a thorough genitourinary exam. Rectal examination should be performed to assess rectal tone, as well as the prostatic fossa in postprostatectomy patients. Stress incontinence should be demonstrated by having the patient perform Valsalva maneuvers or cough with an adequate bladder volume (typically 300 mL). A post-void residual (PVR) should be obtained, especially in patients who primarily void by Valsalva. Prior to invasive testing or treatment, urinalysis and urine culture should be obtained as urinary tract infection may aggravate urinary incontinence. A PSA should be obtained as well as routine blood chemistries and complete blood count. In diabetic patients, one may obtain an HbA1c to evaluate how well their disease is controlled. Finally, attempts should be made to gain an objective measure of the severity of urine leaked as well as functional capacity. The authors provide all patients presenting with stress incontinence a voiding diary to document the daily fluid intake, urinary frequency, and volume of urine voided as well as timing of incontinence. Although patient compliance may be a challenge, a 24-h pad test should be advised to the patient as it provides the most reliable and reproducible quantification of urine leaked daily [17].

Further studies needed to evaluate patients with male SUI include cystourethroscopy. The exam should focus on ruling out concurrent pathologies including urethral stricture disease or bladder neck contracture in patients who underwent radical prostatectomy. The integrity and tone of the urethral sphincter can be directly visualized during examination. Specifically, in patients with a history of TURP, one may appreciate disruption or absence of the verumontanum which is suggestive of external sphincter damage. Finally, one can evaluate the bladder mucosa for the presence of trabeculation and diverticula suggesting prior bladder dysfunction.

Multichannel urodynamics (UDS) is recommended to evaluate patients who are considering invasive treatment [3, 18]. UDS remains an important part of the workup of a patient with stress incontinence as it can assess bladder compliance, bladder hypersensitivity, Valsalva leak point pressure (VLPP), detrusor overactivity, detrusor contractility, and sphincteric function [15]. The use of fluoroscopy can aid in the evaluation of stress incontinence at the time of UDS. Urethral and bladder neck mobility can be assessed using fluoroscopy at the time of UDS, and it can demonstrate contrast leakage alongside the catheter. In patients with concomitant bladder dysfunction, or mixed urinary incontinence, UDS findings help guide clinicians in selecting the best treatment.

For example, the decision to undergo artificial urethral sphincter (AUS) rather than bulbourethral sling placement may be made based on the status of bladder contractility during UDS [15]. Recent studies have questioned the utility of UDS in predicting outcomes for patients requiring surgical management of stress incontinence. The authors showed that adverse findings on urodynamics including detrusor overactivity, low cystometric capacity, low abdominal leak point pressure, low Q_{max}, and poor bladder contractility did not adversely affect outcomes of continence procedures [19, 20]. Despite the potential risk of damage to the upper urinary tract, one author suggested that poor compliance in otherwise neurologically intact patients may be due to the urinary incontinence itself. Improvement of stress incontinence may recover bladder elasticity by restoring normal bladder cycling [21]. Despite this new evidence, ICS guidelines support the use of multichannel urodynamics prior to invasive treatment.

6.3 Management

The treatment options for men with stress incontinence are primarily surgical. In men with postprostatectomy incontinence, nonoperative options within 1 year of surgery include pelvic floor muscle training or Kegel exercises. Other nonoperative interventions include biofeedback therapy and electrical stimulation of the pudendal nerve; however, clinical efficacy has been limited for these approaches [9, 22]. In fact, most large centers typically have a postprostatectomy rehabilitation program that addresses incontinence issues in the first year after surgery for prostate cancer.

Once conservative management has been exhausted, surgical intervention may be considered. Surgical options are

limited to periurethral bulking agents, bulbourethral slings, and AUS. Periurethral bulking agents represent the least invasive approach to surgical intervention; however, long-term success and durability are modest. One randomized study comparing AUS to Macroplastique™ (Cogentix Medical, Minnetonka, MN, USA) injections showed no statistically significant difference in outcomes in patients with minimal incontinence (<100 g pad weight per day) [23]. Although multiple procedures may be necessary in some patients, these results suggest that Macroplastique injections may be a reasonable option for patients with mild stress urinary incontinence. The male sling has emerged as an efficacious surgical option for men with stress incontinence. Several procedures have been described including a transobturator bulbourethral sling (AdVance™, Boston Scientific, Marlborough, MA, USA), a combined retropubic and transobturator (Virtue™, Coloplast Corp., Minneapolis, MN, USA), and the bone-anchored perineal sling (InVance™, Boston Scientific, Marlborough, MA, USA) [24–28]. Finally, the AUS serves as the gold standard for postprostatectomy stress incontinence. The device has also been used successfully in appropriately selected cases including pediatric patients with myelodysplasia, neurogenic bladder, and incontinence following radical cystoprostatectomy and creation of orthotopic neobladder [3].

6.4 Case Studies

6.4.1 Patient 1

6.4.1.1 History

This patient is a 57-year-old gentleman with a chief complaint of urinary incontinence that began immediately following a robotic radical prostatectomy 3 years prior to referral. In the immediate postoperative period, he experienced urine leakage with cough and moderate levels of activity. Over time he developed irritative lower urinary tract symptoms (LUTS) consisting of urinary urgency and diurnal urinary frequency. He denied any obstructive LUTS, recent urinary tract infection, or hematuria. In the immediate postoperative period, he was instructed to perform Kegel exercises, which he performed on occasion and did not improve his symptoms. At the time of referral, he was using two pads daily, with the degree of saturation varying daily. At night he used a pad; however, it was typically dry. On follow-up, he completed a voiding diary as well as a 24-h pad test, which showed that his total pad weight was 105 g. His past medical history was remarkable for hypertension and localized prostate cancer.

6.4.1.2 Physical Examination

General: no acute distress, appearing his stated age.
Psychologic: no signs of depression.
Neurologic: normal gait and sensory examination.
Cardiovascular: no labored breathing or extremity edema.
Abdomen: soft, nontender, and nondistended.
Genitourinary: no costovertebral tenderness, circumcised phallus with no lesions, bilaterally descended testes with no masses, and no inguinal hernias bilaterally. Rectal exam was notable for normal sphincter tone and an empty prostatic fossa. He was asked to perform a Valsalva maneuver as well as cough which provoked visible urine loss.

6.4.1.3 Labwork/Other Studies

UA was within normal limits.
Urine culture was negative.
PSA was undetectable.
PVR 0 mL.
Cystourethroscopy performed in the office, which revealed no urethral strictures, bladder neck contractures, or mucosal abnormalities in the bladder. Able to contract EUS.

6.4.1.4 UDS

See Fig. 6.1.

Findings

Prior to commencing the procedure, the patient voided 461 mL, and on uroflowmetry, he achieved a Q_{max} of 44 mL/s and a Q_{avg} of 20 mL/s.

Filling Phase

- First desire 148 mL.
- No DO. There are several negative deflections in P_{det} tracing. These negative tracings are likely secondary to rectal contractions and are not considered an abnormal finding (a on Fig. 6.1).
- Normal desire 352 mL.
- Cystometric capacity was 651 mL.
- The patient was asked to perform Valsalva maneuvers during this examination, which did not recreate his symptoms. The points at which he performed Valsalva are characterized by the sharp rise in intra-abdominal, intravesical pressure and flat P_{det} tracing (b on Fig. 6.1). The EMG tracing correlates with the Valsalva maneuvers suggesting the presence of sphincteric activity (c on Fig. 6.1). Bladder compliance was normal and P_{det} at capacity was 9 cm/H_2O. After catheter was removed, with Valsalva, the patient did have incontinence.

Voiding Phase

- Q_{max} was 35 mL/s and average flow was 17 mL/s.
- At p_{Det}, Q_{max} was 21 cm/H_2O.
- Shape of the flow curve appears to be a normal bell curve.
- Total voided volume was 720 mL and PVR was 0 mL.

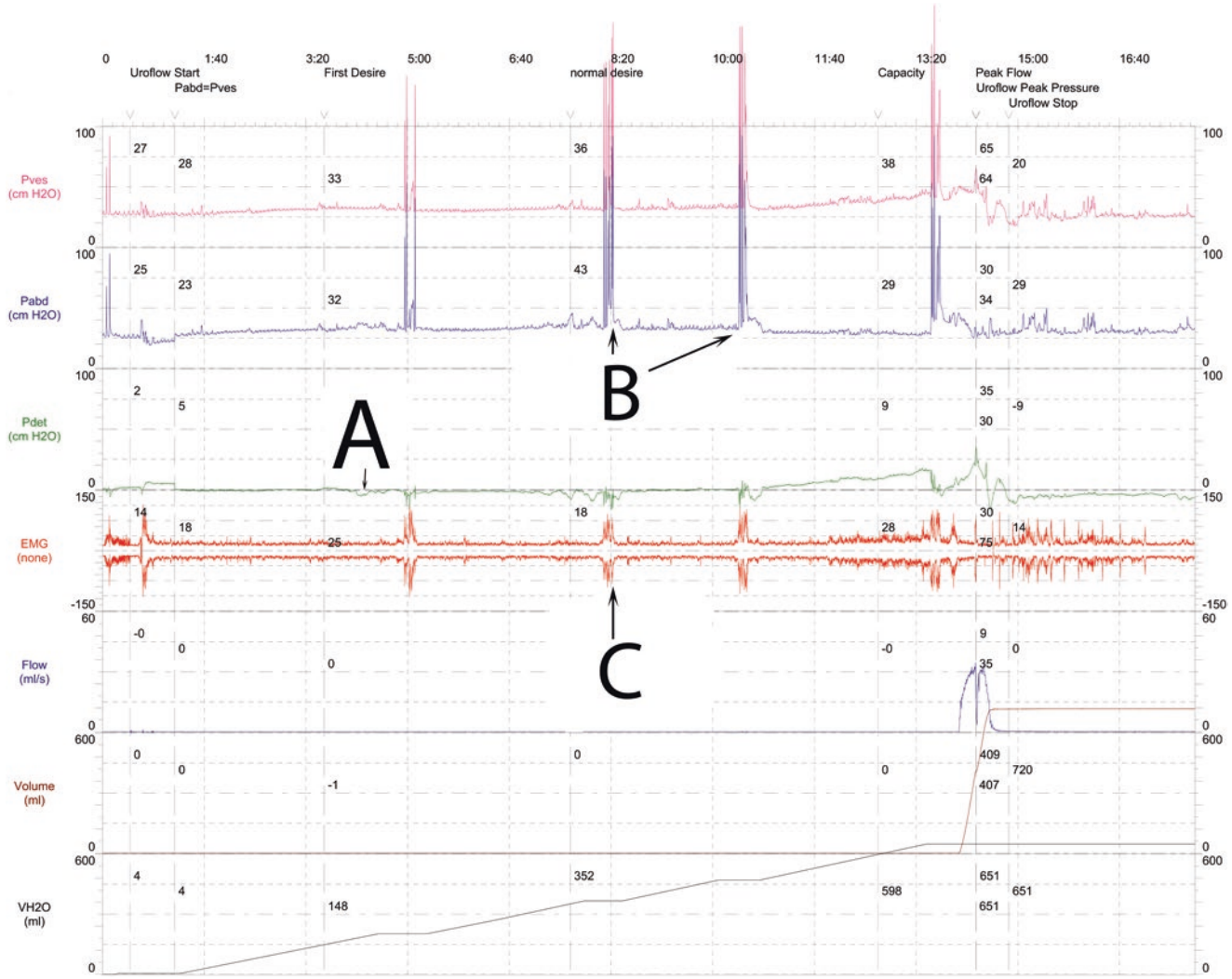

Fig. 6.1 Patient 1: urodynamics tracing

In summary this patient's UDS showed that he has normal bladder sensation, a normal bladder capacity, and normal compliance. Urodynamic stress incontinence was not demonstrated in the study; however, it had been demonstrated in physical exam. This can occur during UDS in postprostatectomy patients who may have decreased urethral compliance in addition to the urethral catheter used during the exam. This can be explained in this patient by the discrepancy in his preprocedure uroflowmetry (Q_{max} = 44 mL/s) and his voiding phase during UDS (Q_{max} = 35 mL/s). He does demonstrate a low detrusor pressure at Q_{max}; however, this does not reflect a poorly contractile bladder as the urethral resistance may be diminished in a patient with stress incontinence secondary to intrinsic sphincter deficiency.

6.4.1.5 Treatment Options

- Penile clamping device
- Periurethral bulking agents
- Male sling
- AUS

Being that he expressed a significant amount of distress over his symptoms, male sling and AUS were offered as the best option for success. In this patient with mild to moderate stress incontinence, no history of radiation, demonstrable stress incontinence on exam, and adequate bladder contractility, he was a good candidate for either procedure. When given the option, most patients with postprostatectomy incontinence choose to undergo placement of male sling to avoid a mechanical device [24]. He elected to undergo placement of an AdVance™ transobturator sling. Postoperatively, he passed his void trial and his PVR was 0 mL. He has remained continent 2 years postoperatively, does not use pads, and has not undergone secondary procedures.

6.4.2 Patient 2

6.4.2.1 History

This patient is a 65-year-old gentleman with a chief complaint of urinary incontinence following a radical prostatectomy 2 years prior to referral. His symptoms occurred exclusively when he coughed, sneezed, lifted heavy objects, or performed any moderate amount of activity. At night he used a safety napkin and he used three napkins on a daily basis (only used napkins rather than pads). He had no other lower urinary tract symptoms and past medical history was significant for a herniated lumbar disk. Prior to referral, he had tried Kegel exercises and utilized a penile clamp; however, he had unsatisfactory results with both. On follow-up, he completed 1 day of a voiding diary notable for a morning void of 350 mL and did not find time to perform a 24-h pad test.

6.4.2.2 Physical Examination

General: no acute distress, appearing his stated age.

Psychologic: no signs of depression.

Neurologic: normal gait and sensory examination.

Cardiovascular: no labored breathing or extremity edema.

Abdomen: soft, nontender, nondistended, well-healed incision.

Genitourinary: napkin with urine spotting, a circumcised phallus without lesions or plaques. The testes were descended bilaterally, firm, nontender, and without masses, and there were no inguinal hernias bilaterally. Digital rectal exam revealed normal sphincter tone and an empty prostatic fossa. He was asked to perform a Valsalva maneuver and as a result he leaked several drops of urine.

6.4.2.3 Labwork/Other Studies

- PSA was undetectable.
- UA and urine culture negative.
- PVR 0 mL.
- Cystourethroscopy was performed, notable for the absence of urethral stricture, bladder neck contracture, and no abnormalities were noted along the bladder mucosa. Able to contract EUS.

6.4.2.4 UDS

See Fig. 6.2.

Findings

The patient underwent urodynamics to continue his evaluation; however, throughout the exam he was quite uncomfortable and did not tolerate bladder filling.

Filling Phase

- First sensation 100 mL.
- First desire to void was noted at 207 mL.
- Normal desire to void occurred at 224 mL.
- DO noted.
- SUI (SUI noted without catheter on initial exam). No UUI noted.
- Cystometric capacity was 247 mL.

Voiding Phase

During the voiding phase, a Q_{max} of 17 mL/s was obtained with a P_{det} of 18 cm/H_2O at Q_{max}. There was a normal bell curve during the voiding phase, and the patient's PVR was 14 mL. It is also important to note the absence of high abdominal pressures during the voiding phase, suggesting the patient does not normally perform a Valsalva maneuver to void.

In summary this patient's UDS demonstrated normal compliance, detrusor overactivity, and reduced bladder capacity. The utility of a voiding diary becomes evident in this patient's case. His first morning void was approximately 375 mL, suggesting that functional capacity was not represented in the examination (likely from discomfort). Additionally, detrusor overactivity was noted during the examination although he did not complain of urinary urgency and frequency. The presence of detrusor overactivity is not unusual in postprostatectomy patients and is reported to be as high as 40 % of postprostatectomy patients during UDS [13, 15].

6.4.2.5 Treatment Options

- Penile clamping device
- Periurethral bulking agents
- Male sling
- AUS

This patient elected to undergo placement of an AdVance™ male sling. Postoperatively he had complete resolution of his stress incontinence and did not require the use of pads. He was able to void without difficulty and his PVR was 0 mm. Unfortunately, the patient presented after 2 years with recurrent stress incontinence for which he resumed using sanitary pads. He also complained of increased urinary frequency (voiding up to 15 times daily), urinary urgency, and nocturia. On his voiding diary, it was noted he was drinking approximately 1 L of herbal tea and coffee in addition to water and 3–4 glasses of wine after dinner. After behavioral modification including fluid restriction, caffeine restriction, and decreasing alcohol consumption, his OAB symptoms improved. He did continue to experience stress incontinence and he underwent videourodynamics as part of his new evaluation.

6.4.2.6 UDS

See Fig. 6.3.

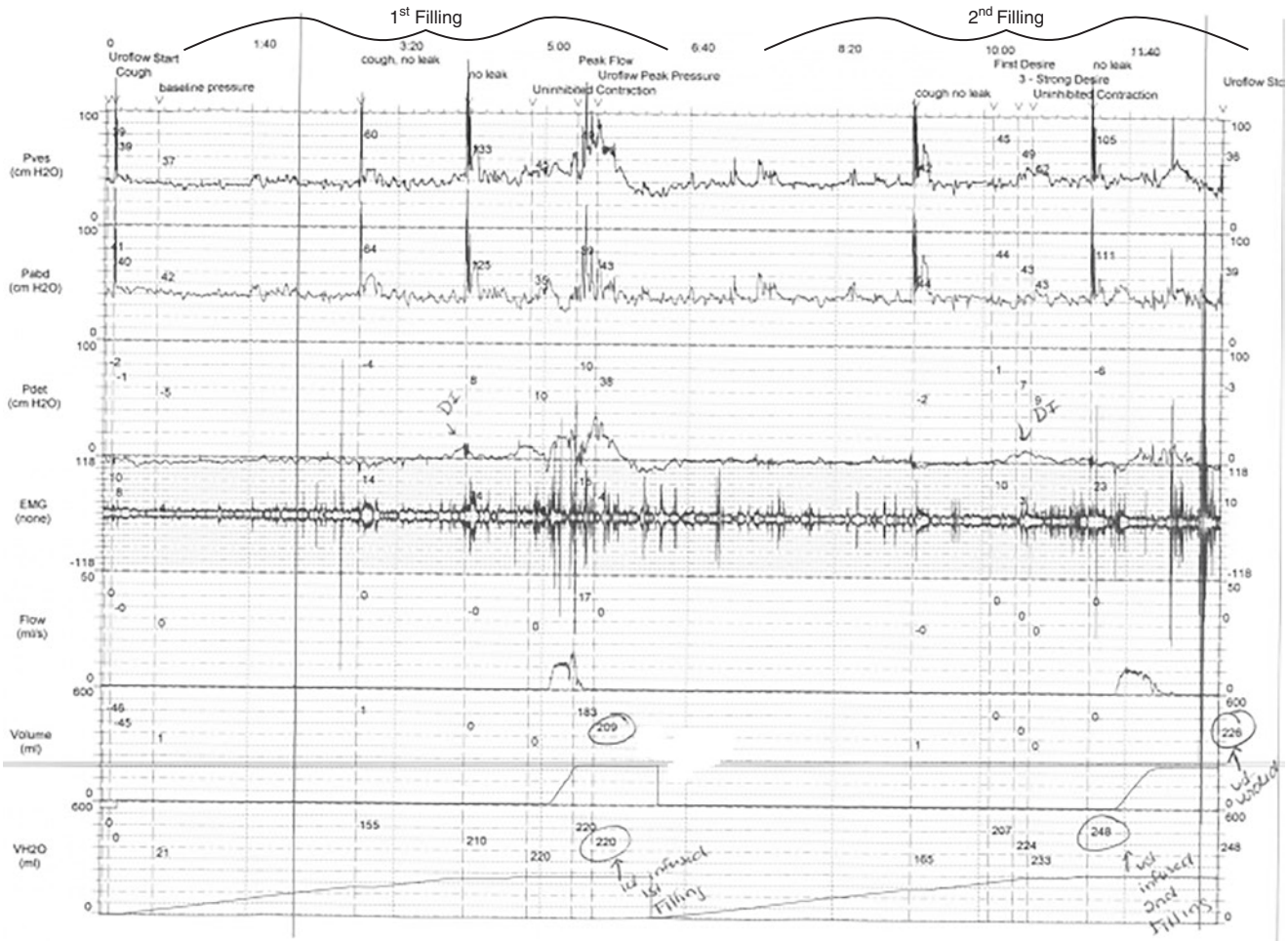

Fig. 6.2 Patient 2: urodynamics tracing prior to transobturator sling

Filling Phase
- First sensation was noted at 92 mL.
- First desire at 147 mL.
- Normal desire at 207 mL.
- Cystometric capacity at 313 mL.
- No DO noted.
- Bladder compliance was normal.
- VLPP was measured at 90 cm/H_2O (volume 255 mL), as this was the lowest intravesical pressure where he leaked.

Voiding Phase
- Q_{max} was 17 mL/s.
- P_{det} at Q_{max} = 39 cm/H_2O.
- Total voided volume was 246 mL and PVR was 66 mL. On fluoroscopy his bladder had a normal contour and leakage was noted as contrast passed alongside the catheter. As he voided there was funneling of the bladder neck and kinking at the location of the sling.

In summary, the second UDS showed resolution of his detrusor overactivity seen on his prior study, stress incontinence with an abdominal leak point pressure of 90 cm/H_2O, and a nonobstructed bladder outlet (bladder outlet index = 5).

6.4.2.7 Treatment Options
- Periurethral bulking agent
- Repeat male sling
- AUS

For patients who have failed surgical management with a male sling and continue to have continued stress incontinence, a repeat urodynamics is warranted. One needs to reassess bladder compliance, detrusor function, and rule out obstruction. Prior to subjecting the patient to a second procedure, further investigation is warranted to treat any underlying etiology to mixed urinary incontinence. Furthermore, videourodynamics (Fig. 6.4a,b) can be utilized to visualize the degree of mobility in the proximal urethra, sling

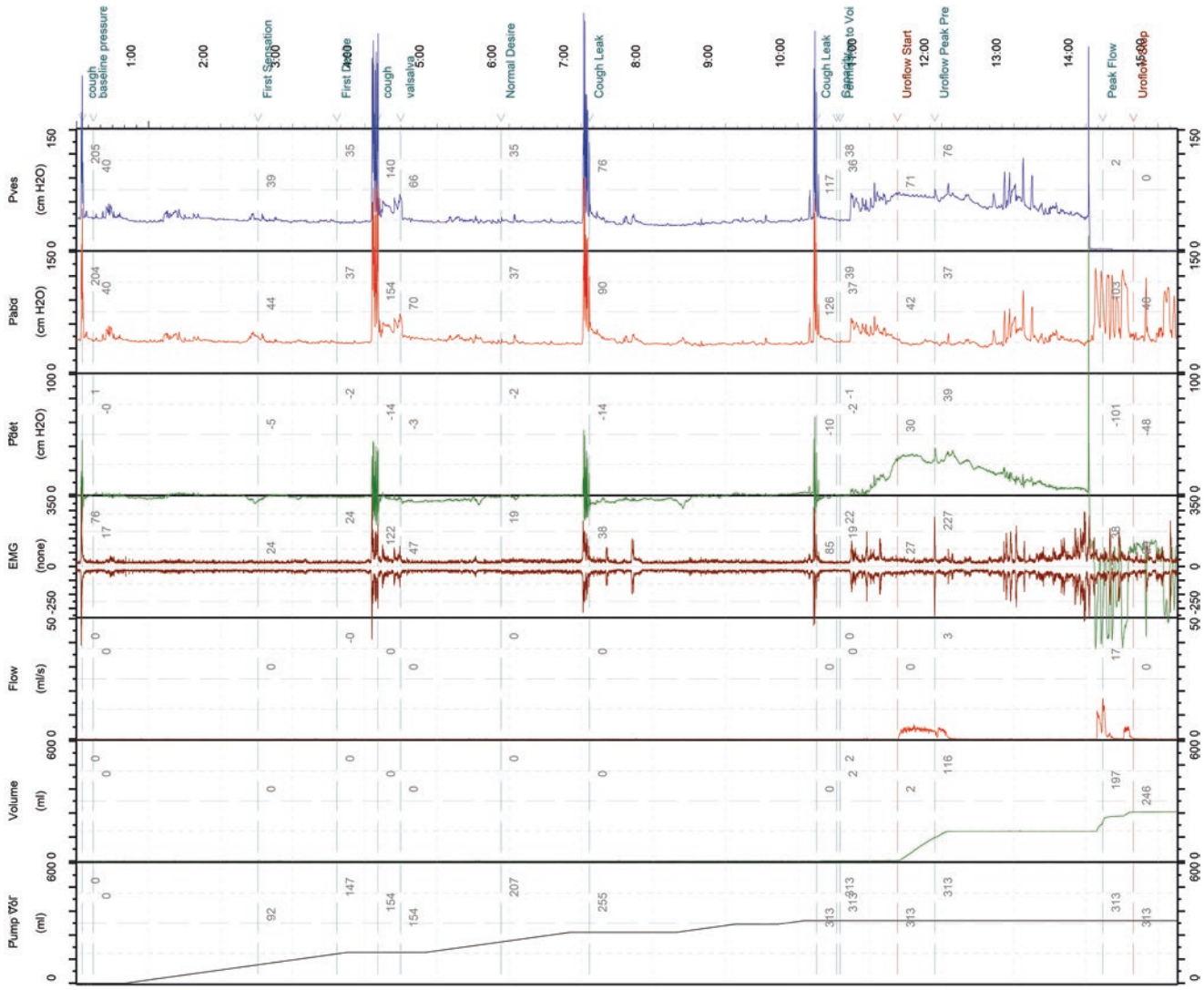

Fig. 6.3 Patient 2: urodynamics tracing after treatment failure with transobturator sling

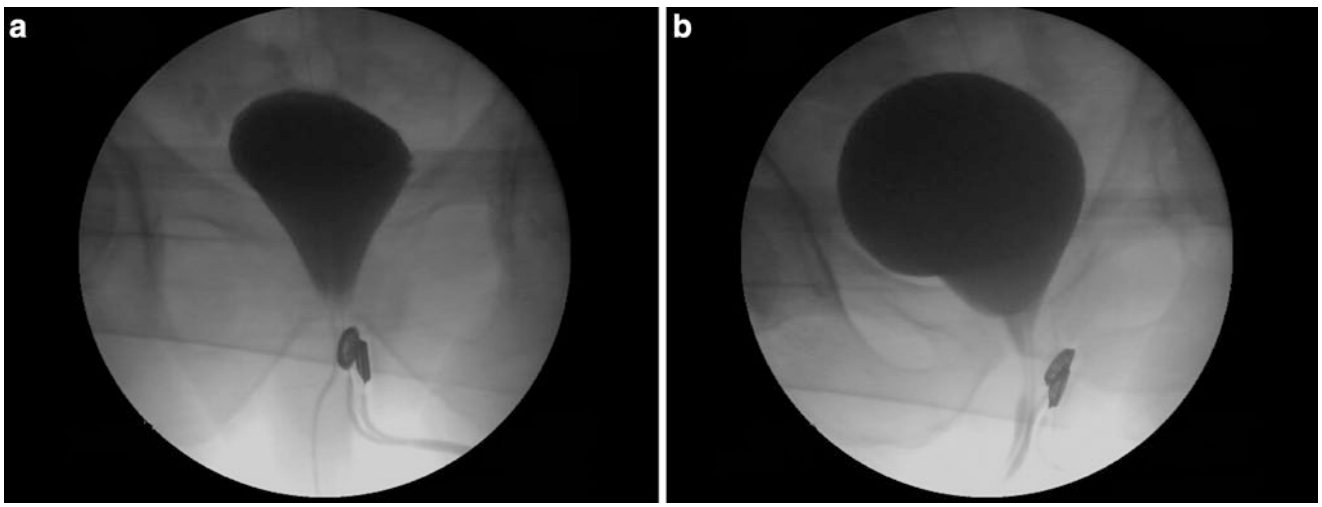

Fig. 6.4 (**a**, **b**) Fluoroscopic images for patient 2 captured during videourodynamics prior to undergoing implantation of artificial urinary sphincter. Both images capture funneling of the bladder neck and urethral kinking likely caused by the transobturator sling

placement, and examine the contour of the bladder. After the appropriate workup is obtained, patients who fail therapy with a male sling can be considered for placement of an AUS. Several studies have reported promising outcomes and patient satisfaction after a failed male sling [29, 30].

The patient underwent placement of AUS and postoperatively had resolution of his stress incontinence after activating the device. He has continued to remain fully continent, requiring no pads up to 1 year postoperatively at last follow-up.

6.4.3 Patient 3

6.4.3.1 History

This patient is a 77-year-old gentleman presenting for evaluation of urinary incontinence of 1 year. His past urologic history is significant for prostate cancer treated with brachytherapy 13 years ago. One year prior to current evaluation, he began experiencing obstructive voiding symptoms and subsequently underwent a Greenlight™ (American Medical Systems, Minnetonka, MN, USA) laser photovaporization of the prostate (PVP). Postoperatively he developed severe incontinence, consisting of continuous leakage, exacerbated by light activity and typically high in volume. Although he was voiding volitionally, the volume actually voided was typically lower than the preoperative state. On average he was using 6–8 pads daily and most nights would need at least one pad change. He had no other voiding symptoms and denied gross hematuria. In addition to prostate cancer, he had a history of diabetes mellitus, coronary artery disease, and hyperlipidemia. He had undergone a CABG 11 years prior and was currently on antiplatelet therapy consisting of aspirin and clopidogrel. Prior to his follow-up appointment, he completed a 3-day voiding diary significant for low fluid intake and low voided volumes. His 24 h pad weight was over 600 g.

6.4.3.2 Physical Examination

General: no acute distress, appearing his stated age.
Psychologic: no signs of depression.
Neurologic: normal gait and sensory examination.
Cardiovascular: no labored breathing or extremity edema.
Abdomen: soft, nontender, and nondistended.
Genitourinary: circumcised phallus without lesions or plaques, testes descended bilaterally, and approximately 25 mL in volume. The epididymides were flat bilaterally and no inguinal hernias were present bilaterally. On digital rectal examination, he had normal rectal tone and no rectal masses, and the prostate was approximately 45 cm^3, firm, and flat consistent with prior radiation therapy. When asked to perform a Valsalva maneuver, he leaked significantly.

6.4.3.3 Labwork/Other Studies

- PSA which was unchanged from nadir.
- Urinalysis was obtained revealing microscopic hematuria, presence of leukocyte esterase and nitrites. Urine culture was positive for multiple organisms including *E. coli* and *Enterococcus faecalis*. He received a full course of antibiotics and subsequent negative urine culture prior to undergoing flexible cystoscopy. Of note, incontinence did not change after treatment.
- Cystoscopy was significant for bladder wall trabeculation; a small diverticulum in the posterior wall of the bladder, friable prostatic tissue, and the verumontanum could not be clearly identified. There were no urethral strictures or mucosal abnormalities of the bladder.

6.4.3.4 UDS

See Fig. 6.5.

Findings

Filling Phase

– First sensation occurred at 191 mL.
– Normal desire to void occurred at 220 mL.
– DO noted (a on Fig. 6.5). Concomitantly, the patient leaked 50 mL around the catheter, which was depicted by the technician and generated enough flow to appear on the flow tracing (b on Fig. 6.5).
– Detrusor leak point pressure was measured at 33 cm/H_2O, as this was the pressure he began leaking in the absence of increased abdominal pressure.
– Synergic EMG response to detrusor overactivity. After the detrusor instability is resolved, bladder filling was resumed, and he reached a cystometric capacity of 279 mL, with a detrusor pressure of 4 cm/H_2O. When he was asked to perform a Valsalva during the exam, stress incontinence was not demonstrated (c on Fig. 6.5).

Voiding Phase

The voiding phase of this study was limited by patient discomfort as he was trying to void with the catheter in place.

– Q_{max} was 4.9 mL/s.
– P_{det} at Q_{max} was 41 cm/H_2O.
– Only voided 83 mL with the urethral catheter in place, and after it was removed, he voided 221 mL with a Q_{max} of 7 mL/s.

In summary, his UDS showed diminished bladder sensation, reduced bladder capacity, and a detrusor leak point pressure of 33 cm/H_2O. Urodynamics in this patient was an important intervention, as it helped discover concurrent voiding dysfunction. Although the patient did not complain

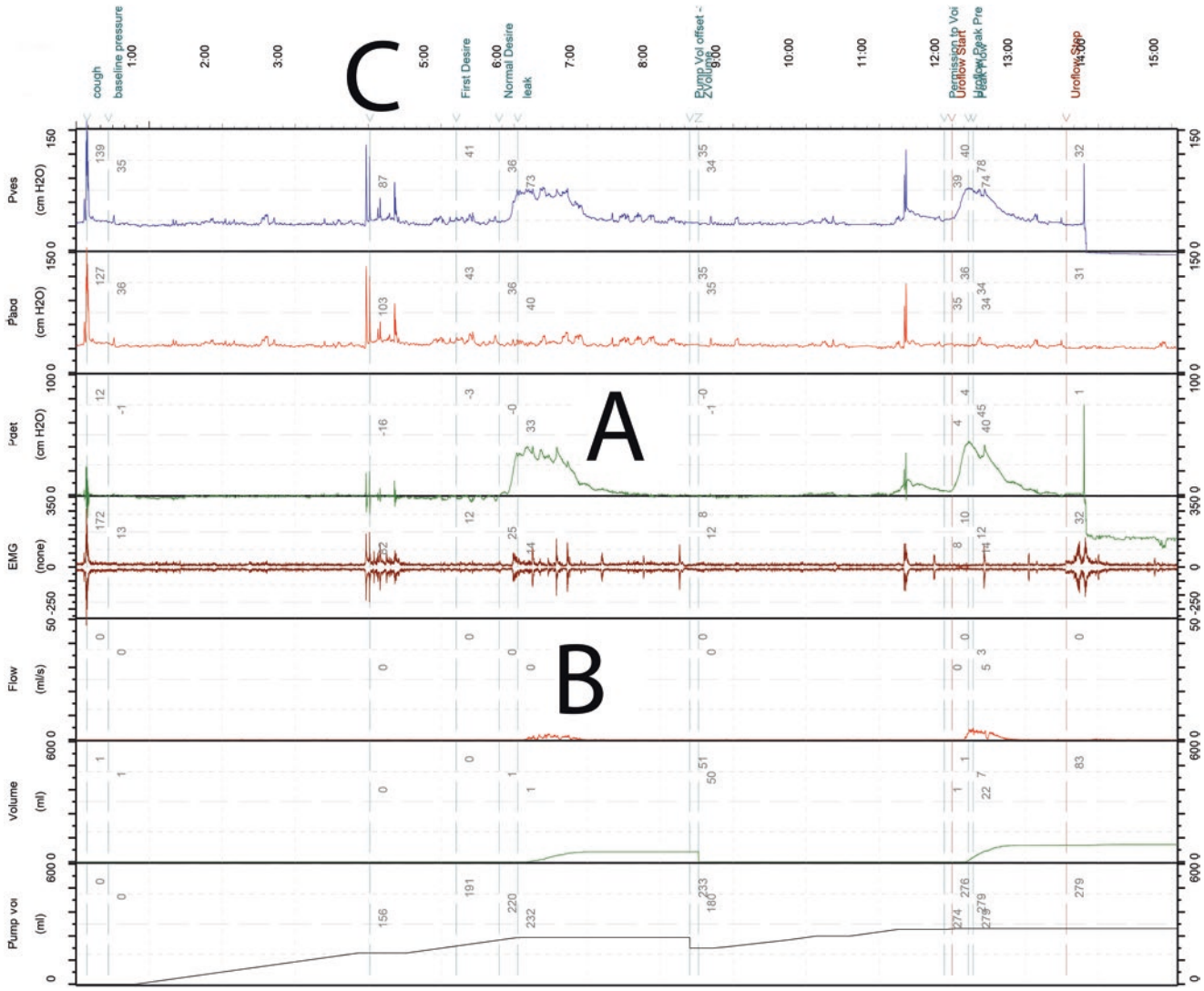

Fig. 6.5 Patient 3: urodynamics tracing prior to artificial urinary sphincter implantation

of urgency or urge incontinence at the time of referral, this was only achieved with a volume of 232 mL. With the severity of his incontinence, he may have not amounted sufficient volumes to experience detrusor overactivity. Given the information gained from this exam, one can address multiple aspects of his voiding dysfunction.

6.4.3.5 Treatment Options

In this patient with stress predominant urinary incontinence, detrusor overactivity, and a complex medical history, there are several considerations that must be taken when formulating a treatment plan. Although this patient's presentation is complex, a multimodal approach may successfully address his voiding dysfunction. In patients with brachytherapy, there is a small risk of experiencing urinary incontinence. Unfortunately these patients are also at risk for urinary retention as well as irritative voiding symptoms including urgency. For those patients managed with transurethral resection of prostate (TURP), the risk of becoming incontinent increases dramatically [12]. Although the patient did not undergo TURP, patients undergoing PVP have a similar risk of permanent incontinence [3]. Surgical management for stress incontinence following procedures for bladder outlet obstruction is best defined for AUS. Given the patient's presentation, he would not be a candidate for a male sling owing primarily to the severity of incontinence and his prior history of radiotherapy. AUS has become the gold standard for the management of lame stress incontinence, primarily in patients with postprostatectomy incontinence for malignant and benign disease [30]. Multiple studies have demonstrated a satisfactory and durable outcome for incontinence as well as patient satisfaction [31, 32]. The risk of reoperation is one that must be addressed prior to intervention as it can approach rates as high as 29 %, secondary to mechanical failure, erosion, or

postoperative infection [31]. The patient's history of radiation does not preclude him from surgical management as contemporary studies have shown similar outcomes to nonradiated patients [30]. Additionally, unfavorable UDS features, including detrusor overactivity, have been reported to have no detrimental effects on continence postimplantation [20].

The patient was counseled on his medical and surgical options and was initiated on anticholinergic therapy, which did significantly improve his OAB symptoms, and he was able to demonstrate larger voided volumes based on voiding diary. Initially he decided to forgo surgical management and used a penile clamp to maintain continence. After 1 year, he returned for follow-up and underwent placement of an AUS. Postoperatively, he began cycling his device and was using one pad daily as a safety pad, which he is satisfied with using.

6.5 Summary

Urinary incontinence in males is less prevalent than the disease in female counterparts. Stress incontinence in males can be detrimental to quality of life and may coexist with other voiding symptoms. Although there are several etiologies for male stress incontinence, the most common occurs after radical prostatectomy. As in most patients with male stress incontinence, the etiology may be obtained from clinical exam; however, the use of urodynamics plays an important role prior to subjecting the patient to invasive treatment. The data obtained from urodynamics may assist in treatment planning by assessing the functional capacity of the bladder and detecting bladder dysfunction. Although recent data suggest that urodynamics may not be necessary, expert opinion suggests that it remains a valuable tool prior to surgical management of male stress incontinence.

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