

Chapter 8

UROLOGIC CONDITIONS

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Priapism. Aspiration of the corpora cavernosa followed by injection of α -adrenergic agents such as phenylephrine through the same needle is demonstrated by combining two syringes with a three-way stopcock. (Photo contributor: David Effron, MD.)

Clinical Summary

Young men (average age 16-17.5 years) complain of the sudden onset of pain in one testicle, followed by swelling of the affected testicle, reddening of the overlying scrotal skin, lower abdominal pain, nausea, and vomiting. An examination reveals a swollen, tender, retracted testicle that often lies in the horizontal plane (bell-clapper deformity). The spermatic cord is frequently swollen on the affected side. In delayed presentations, the entire hemiscrotum may be swollen, tender, and firm. The urine is usually clear with a normal urinalysis. In one-third of cases, there is a peripheral leukocytosis.

Management and Disposition

Obtain urologic consultation immediately and prepare to go to the operating room without delay. Doppler ultrasound or technetium scanning may be helpful if these procedures will not delay surgery. In the interim, detorsion may be attempted if the patient is seen within a few hours of onset: open the affected testicle like a book, that is, the right testicle turned counterclockwise when viewed from below and the left testicle turned clockwise. Pain relief is immediate. Decreased pain prompts additional turns (as many as three) to complete detorsion; increased pain prompts detorsion in the opposite direction. Do not delay operative intervention for ancillary studies since testicular infarction will occur within 6 to 12 hours after torsion.

Pearls

1. The cremasteric reflex is almost always absent in testicular torsion.
2. Patients may report similar, less severe episodes that spontaneously resolved in the recent past.
3. Half of all torsions occur during sleep.
4. Abdominal or inguinal pain is sometimes present without pain to the scrotum.
5. The age of presentation has a bimodal pattern, since torsion is more prevalent during infancy and adolescence.



FIGURE 8.1 ■ Testicular Torsion. Swollen, tender hemiscrotum, with erythema of scrotal skin and retracted testicle. (Photo contributor: Stephen W. Corbett, MD.)

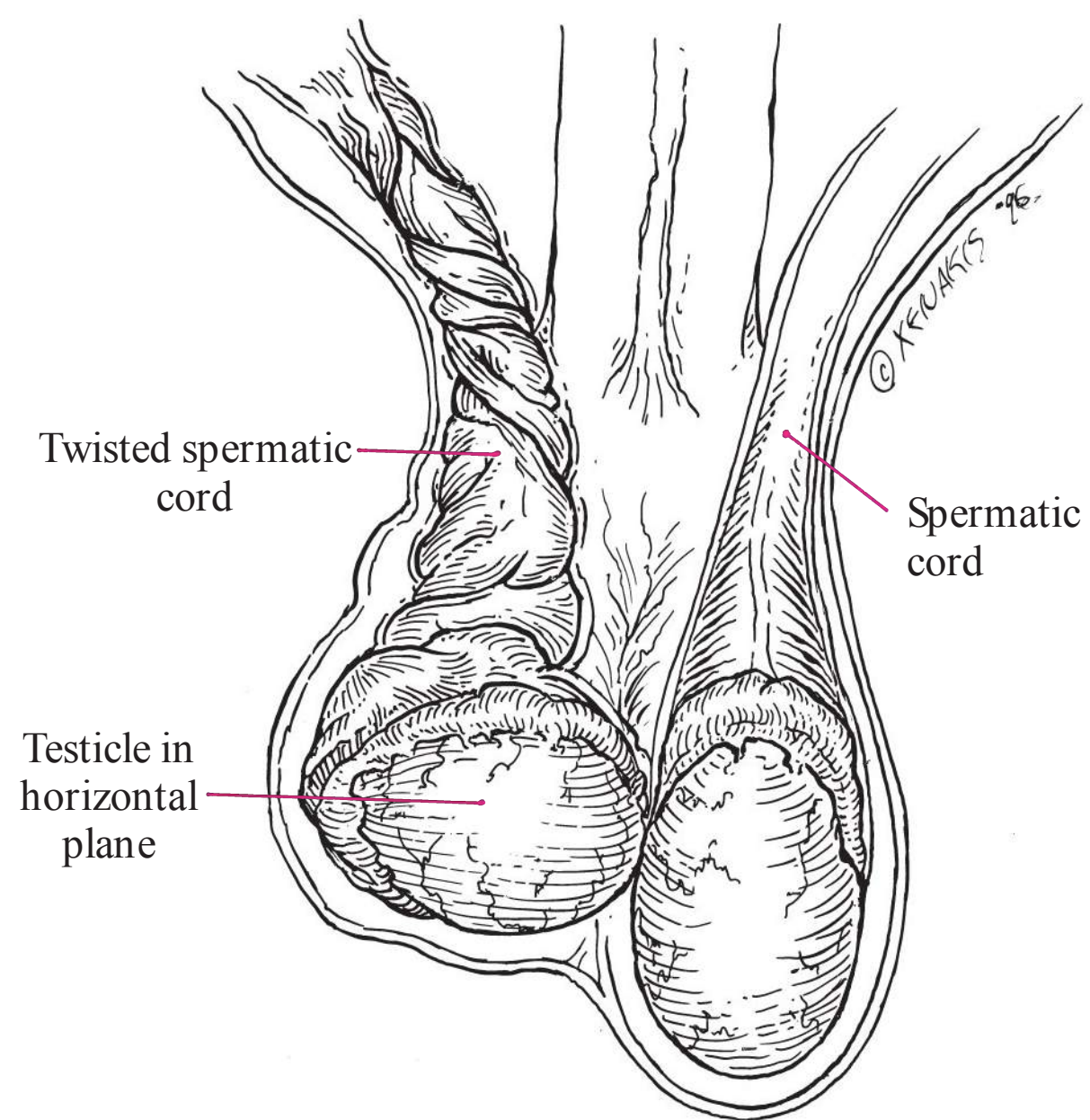


FIGURE 8.2 ■ Bell-Clapper Deformity. Twisting of the spermatic cord causes the testicle to be elevated with a horizontal lie. Lack of fixation to the posterior scrotum predisposes the freely movable testes to rotation and subsequent torsion. Asymptomatic patients with bell-clapper deformity are at risk for torsion.



FIGURE 8.3 ■ Testicular Torsion. A retracted testicle consistent with early testicular torsion (minimal edema) is seen in both of these patients. (A) (Photo contributor: David W. Munter, MD, MBA.) (B) (Photo contributor: Emergency Medicine Department, Naval Medical Center Portsmouth.)



FIGURE 8.4 ■ Testicular Torsion. Swollen, tender scrotal mass. (Photo contributor: Patrick McKenna, MD.)



FIGURE 8.5 ■ Testicular Torsion. A red, swollen hemiscrotum is seen in this right testicular torsion in a 14-year-old. (Photo contributor: Lawrence Heiskell, MD.)

Clinical Summary

Vestigial remnants in the embryology of the scrotum are often found on the superior portions of the testicle or the epididymis. These appendages, which have no known function, are occasionally on a stalk that is subject to torsion. This most commonly occurs in boys up to 16 years of age but has been reported in adults. The patient complains of sudden pain around the superior pole of the testicle or epididymis as the appendix undergoes necrosis and inflammation. Early in the course, palpation of a firm, tender nodule in this area will confirm the diagnosis.

Management and Disposition

Obtain urologic consultation immediately. Differentiating from the more emergent testicular torsion is the key responsibility. Ancillary studies are generally not helpful in making this diagnosis unless it presents very early in its course. A urinalysis is generally normal. The characteristic physical signs of a small, tender, upper-pole nodule along with a color Doppler ultrasound showing good flow to the testicle may mitigate the need for emergent surgery. With later presentations or an equivocal ultrasound, the diagnosis may not be made with confidence before surgery. If surgery is not deemed necessary by the urologic consultant, analgesics and rest are all that is required. The appendix will involute and calcify in 1 to 2 weeks.

Pearls

1. Stretching of the scrotal skin across the necrotic nodule will occasionally reveal a bluish discoloration of the nodule, called the “blue-dot sign.” This is pathognomonic for torsion of the appendix.
2. A reactive hydrocele may accompany appendiceal torsion. When the hydrocele is transilluminated, the blue-dot sign may be revealed.



FIGURE 8.7 ■ Blue-Dot Sign. A blue-dot sign is seen in an older patient. (Photo contributor: Alan B. Storrow, MD.)



FIGURE 8.6 ■ Blue-Dot Sign. A blue-dot sign is caused by torsion of the testicular appendix. It is best seen with the skin held taut over the testicular appendix. (Photo contributor: Javier A. Gonzalez del Rey, MD.)

Clinical Summary

The onset of scrotal pain typically occurs over hours and is often referred to the ipsilateral inguinal canal or lower abdominal quadrant. Recent urinary tract instrumentation or urinary tract infection is a risk factor. Early in the course, a tender, indurated, edematous epididymis is palpated separately from the nontender testicle. Late presentations will have generalized scrotal swelling and tenderness, making examination and differentiation more difficult. The urinalysis reveals pyuria or bacteriuria half of the time and the peripheral white blood cell count is frequently elevated. Patients can present with fever and signs of sepsis.

Management and Disposition

Direct outpatient treatment of younger men (<35 years) at sexually transmitted organisms. Older men tend to have infections caused by organisms in common with urinary tract infection. Refer adolescents and children for urological evaluation to rule out congenital anomalies, which are common in nongonococcal infections in this age group. Consider admission and IV antibiotics for febrile patients.

Pearls

1. Elevation of the affected hemiscrotum while supine may provide relief of symptoms (Prehn sign).
2. Evaluate older men for urinary retention, as this is a frequent cause of epididymitis.
3. Testicular tumors are most frequently misdiagnosed as epididymitis.
4. The absence of pyuria or bacteriuria does not exclude the diagnosis.
5. Referred pain to the lower quadrants can mimic appendicitis or diverticulitis.

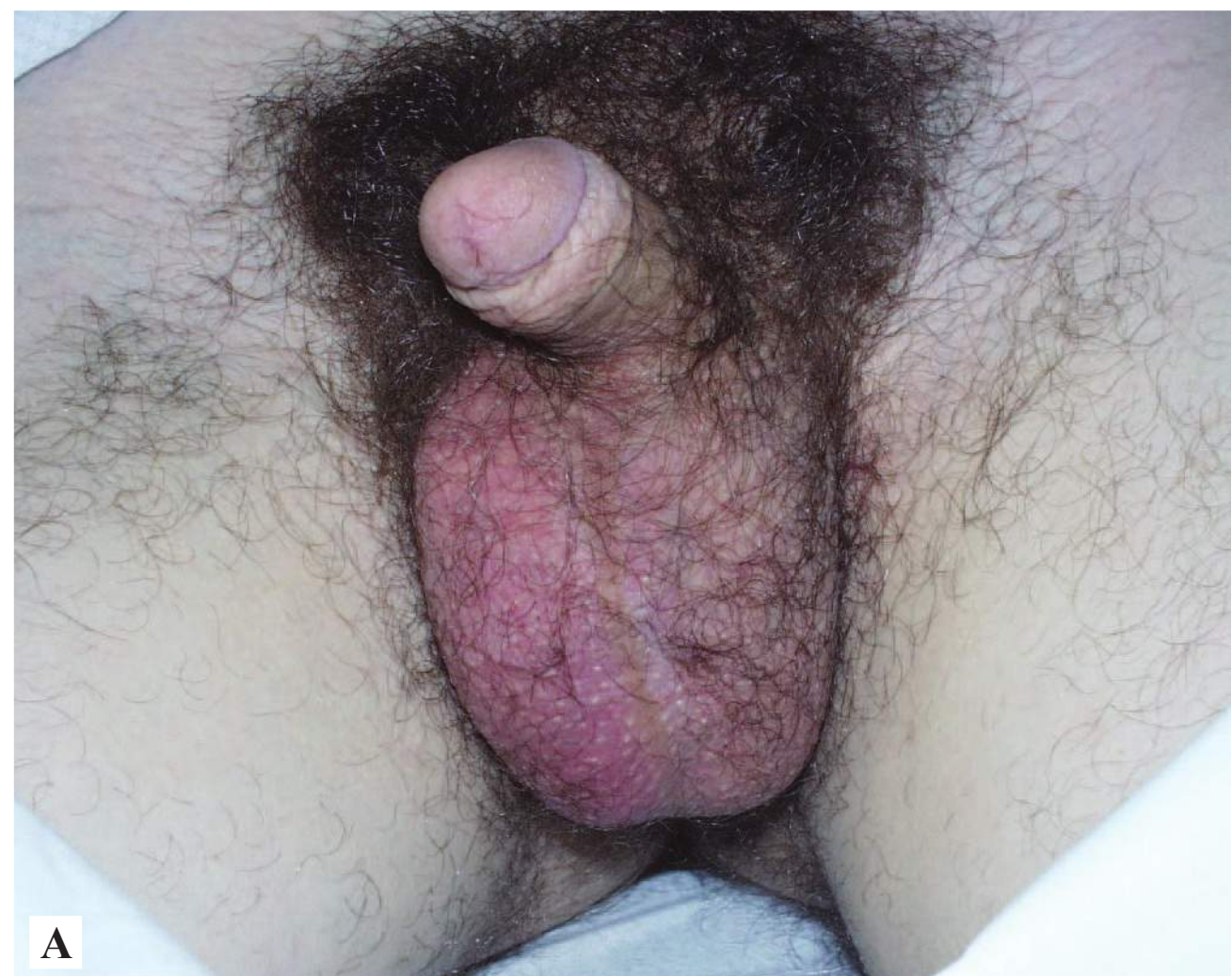


FIGURE 8.8 ■ Acute Epididymitis. (A) Swelling of the right hemiscrotum and tenderness of the inferior posterior portion of the testicle. (Photo contributor: Emergency Medicine Department, Naval Medical Center Portsmouth.) (B) Diffuse and erythema swelling of the entire scrotum. (Photo contributor: Cyril Thomas, PAC.)

Clinical Summary

Orchitis has a variable onset and is mildly uncomfortable or severely painful. It is most frequently a complication of mumps infection and more rarely other viruses. Bacterial orchitis is rarer still and associated with concurrent epididymitis. Mumps orchitis occurs 4 to 7 days after parotid symptoms with testicular pain and swelling. It is unilateral 70% of the time with a contralateral infection developing later 30% of the time. The testicle is swollen

and tender, sparing the epididymis. The overlying scrotal skin can be edematous and erythematous. Constitutional symptoms of malaise, headache, myalgias, and fever are common.

Management and Disposition

Supportive care with analgesics, hot or cold packs, and scrotal elevation is sufficient for mumps orchitis. Bacterial orchitis is treated the same as epididymitis.

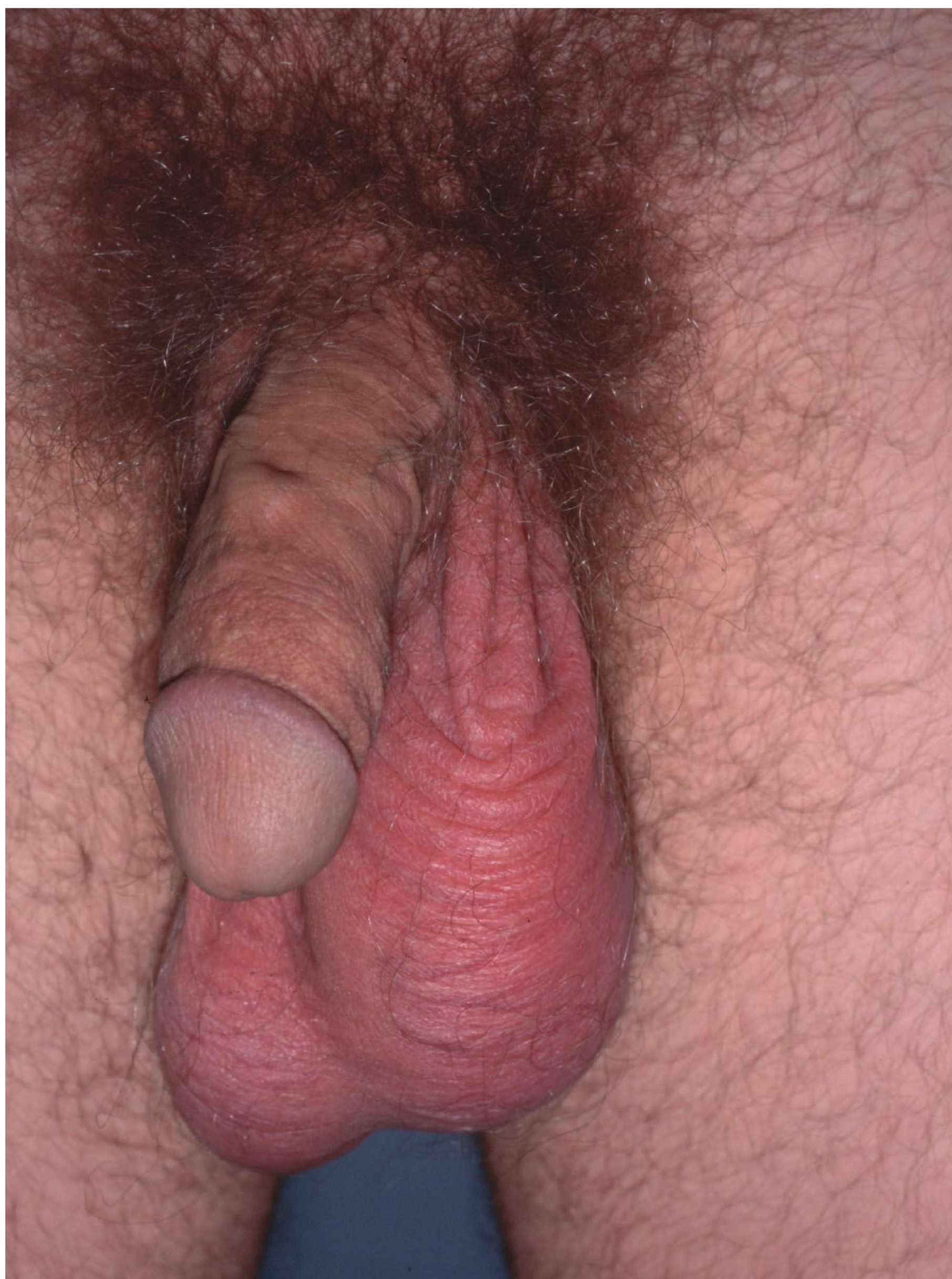


FIGURE 8.9 ■ Orchitis. Unilateral testicular pain, swelling, scrotal erythema, and edema are seen in this patient with parotitis. (Photo contributor: Lawrence B. Stack, MD.)

Pearls

1. Pain and swelling from mumps orchitis mimics testicular torsion mandating Doppler ultrasonography to differentiate.
2. An enlarged, tender epididymis or boggy, tender prostate supports bacterial orchitis.
3. Preceding or concurrent parotid swelling supports mumps orchitis.



FIGURE 8.10 ■ Orchitis. Swelling and erythema of the right hemiscrotum in a patient with orchitis. (Photo contributor: David Effron, MD.)

Clinical Summary

Most hydroceles occur in older patients and develop gradually without any significant symptoms. Hydrocele presents as a soft, pear-shaped, fluid-filled cystic mass anterior to the testicle and epididymis that will transilluminate. However, it can be tense and firm and will transilluminate poorly if the tunica vaginalis is thickened. Almost all hydroceles in children are communicating, resulting from the same mechanism that causes inguinal hernia. A persistent, narrow processus vaginalis acts like a one-way valve, thus permitting the accumulation of dependent peritoneal fluid in the scrotum. Acute symptomatic hydroceles are rarer and can occur in association with epididymitis, trauma, or tumor.

Management and Disposition

In an acute hydrocele, direct treatment at discovering a possible underlying cause. A positive urinalysis may point toward an infectious etiology. Transillumination helps demonstrate whether the mass is cystic or solid. Ultrasound can be very helpful in imaging the scrotal contents and delineating the composition of the mass. Acute hydroceles should not be considered benign and require referral to a urologist to rule out tumor or infection. Refer chronic accumulations to a urologist on a more routine basis for elective drainage.

Pearls

1. Ten percent of testicular tumors have a reactive hydrocele as the presenting complaint.
2. An inguinal hernia with a loop of bowel in it may emit bowel sounds.

3. Hydroceles are almost never symptomatic.
4. Acute reactive hydroceles may be caused by infection, trauma, or torsion.

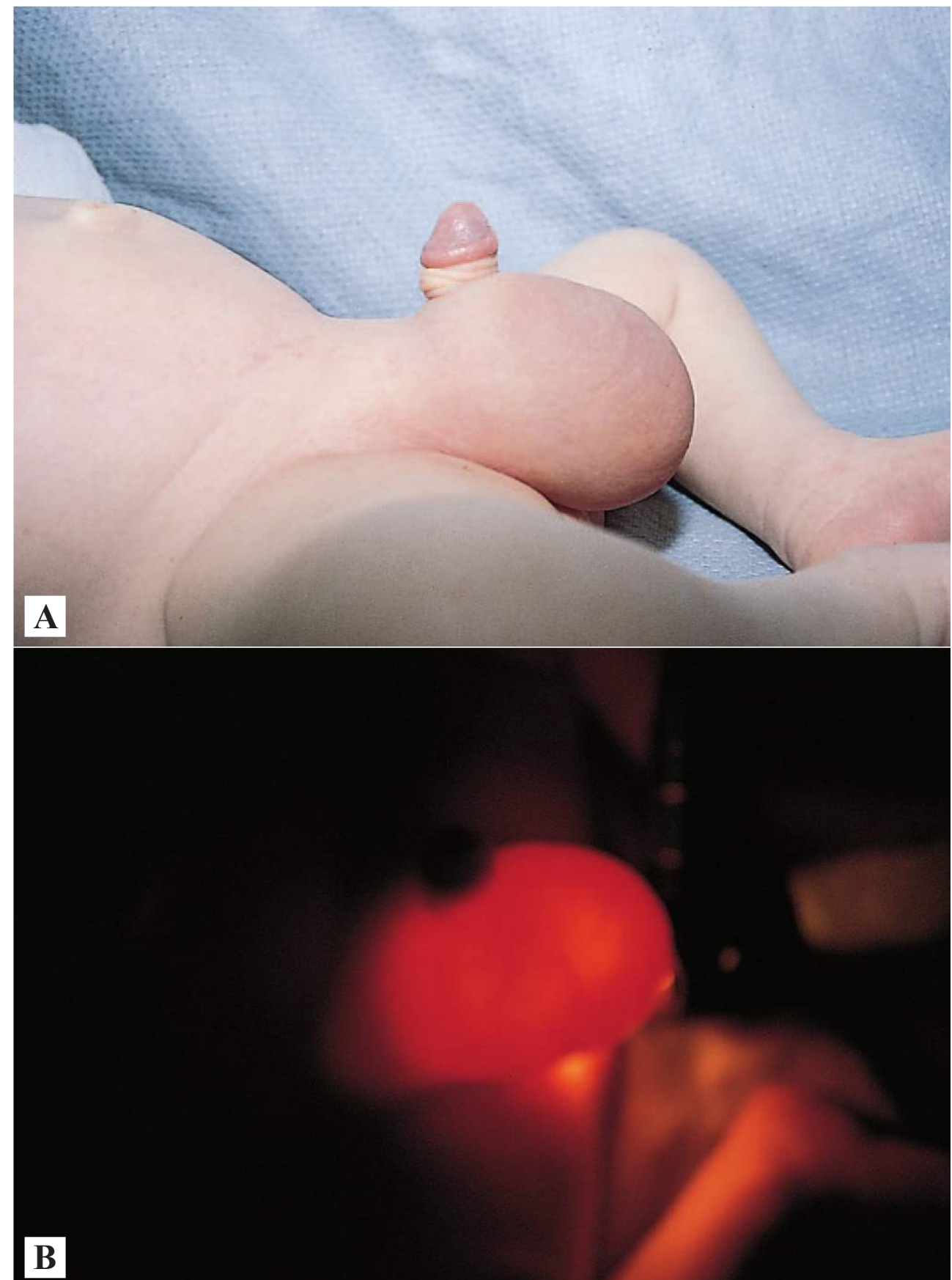


FIGURE 8.11 ■ Hydrocele. Painless swelling in the scrotum of a young boy (A). Transillumination of the swelling (B) identifies the hydrocele. (Photo contributor: Michael J. Nowicki, MD.)

Clinical Summary

In testicular tumor, a painless, firm testicular mass is palpated, with the patient often complaining of a “heaviness” of his testicle. If the patient presents early, the mass will be distinct from the testis, whereas later presentations will have generalized testicular or scrotal swelling. These lesions occasionally present with pain due to infarction of the tumor.

Management and Disposition

Refer patients promptly to a urologist for surgical exploration.

Pearls

1. Acute hydroceles and hematoceles should prompt the physician to consider a tumor as the cause.
2. Pain from tumor infarction is usually not as severe as pain due to torsion or epididymitis.
3. Findings of an unexplained supraclavicular lymph node, abdominal mass, or chronic nonproductive cough resistant to conventional therapy should prompt a testicular examination for tumor.

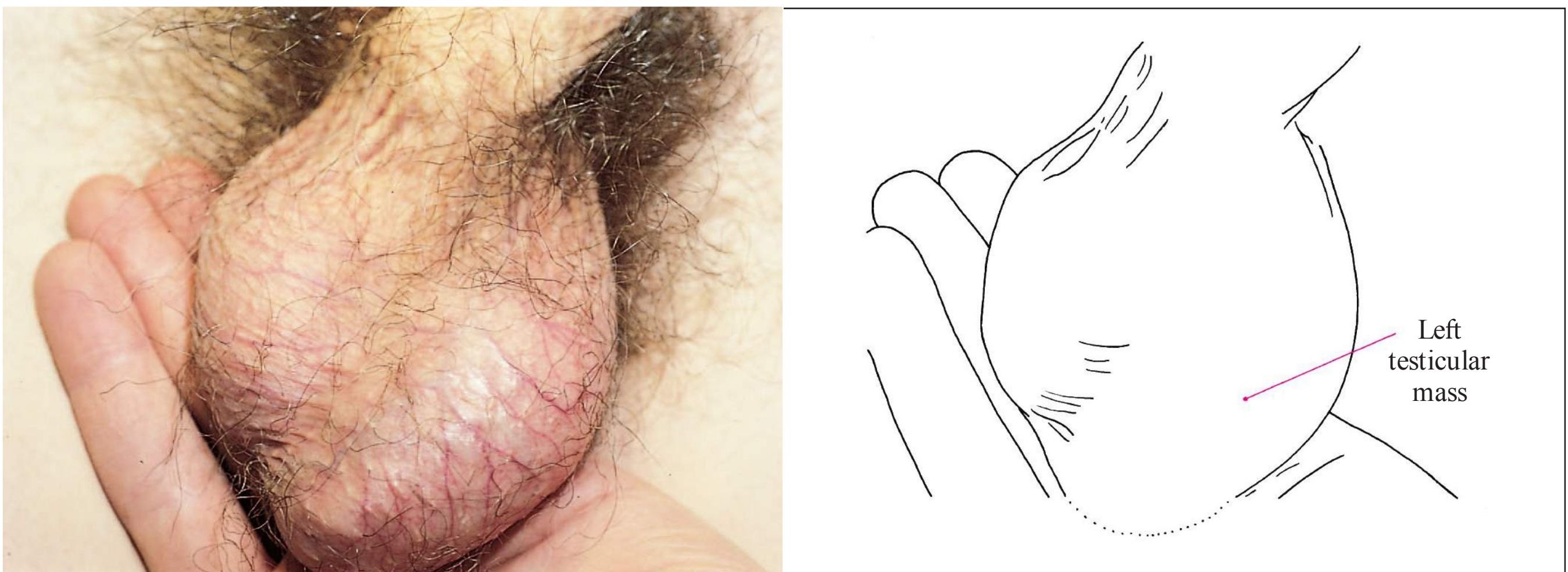


FIGURE 8.12 ■ Testicular Tumor. This painless left testicular mass is highly suspicious for tumor, as proved to be the case in this patient. (Photo contributor: Patrick McKenna, MD.)

Clinical Summary

A scrotal abscess is a suppurative mass with surrounding erythema involving the superficial layers of the scrotal wall. The usual history given is progressive swelling of a small pustule or papule with increasing pain and induration or fluctuance. Constitutional symptoms and fever are generally absent.

Management and Disposition

Using local anesthesia, simply make a stab incision and drain the abscess. Instruct the patient to use a sitz bath and to change

the dressing frequently. An alternative method of treatment to ensure adequate wound drainage is to unroof the abscess by circumferential excision. Immunocompromised patients may require intravenous antibiotics and admission.

Pearl

1. If the patient appears ill out of proportion to the superficial appearance, suspect that this mass is the point of a deep scrotal abscess.



FIGURE 8.13 ■ Scrotal Abscess. Suppurative mass on the scrotum. (Photo contributor: David Effron, MD.)

Clinical Summary

Fournier gangrene, a form of necrotizing fasciitis, most frequently occurs in a middle-aged diabetic man who presents with swelling, erythema, and severe pain of the entire scrotum, but it is also known to occur in women. In men, the scrotal contents often cannot be palpated because of the marked inflammation. The patient has constitutional symptoms with fever and frequently is in shock. There is often a history of recent urethral instrumentation, an indwelling Foley catheter, or perirectal disease. A localized area of fluctuance cannot be appreciated.

Management and Disposition

These patients require aggressive fluid resuscitation and early surgical consultation for immediate debridement and surgical drainage. Give broad-spectrum antibiotics effective against gram-positive, gram-negative, and anaerobic organisms as

soon as possible in the emergency department. There is anecdotal experience that treatment is enhanced by hyperbaric oxygen.

Pearls

1. Pain out of proportion to the clinical findings may represent an early presentation of Fournier gangrene.
2. A plain pelvic radiograph may reveal subcutaneous air.
3. Fournier gangrene is usually quite painful but has been known to present with only a mildly uncomfortable necrosis of the scrotal wall and exposed testis.



FIGURE 8.14 ■ Fournier Gangrene. Middle-aged diabetic man with fever and scrotal pain. Final diagnosis is polymicrobial Fournier gangrene. (Photo contributor: Eugene C. Eiland, MD.)

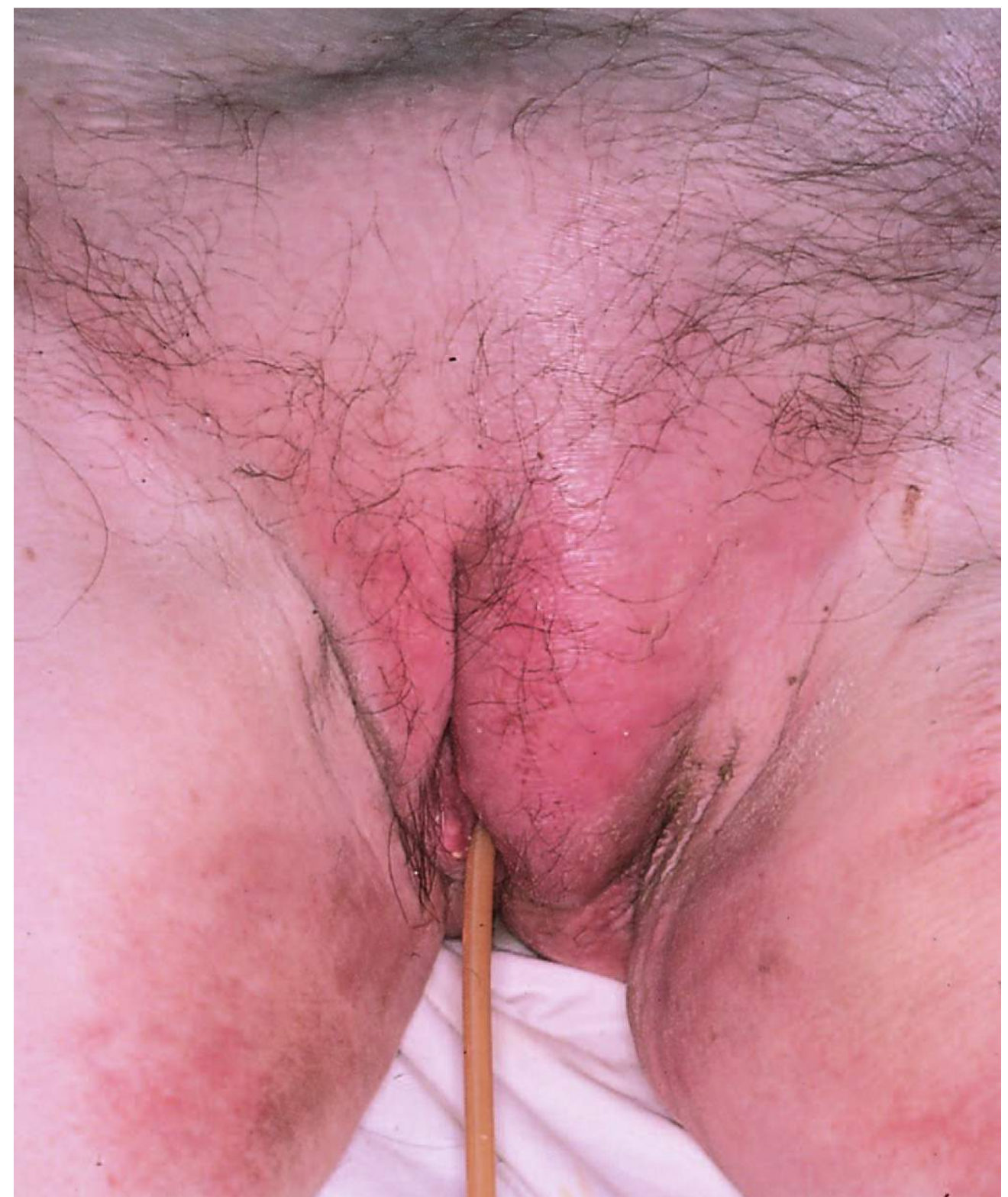


FIGURE 8.15 ■ Fournier Gangrene. Swollen, tender, erythematous labia, perineum, and inner thighs in a female patient with Fournier gangrene. (Photo contributor: Daniel L. Savitt, MD.)



FIGURE 8.16 ■ Fournier Gangrene. Necrosis of overlying scrotal skin along with swelling, erythema, high fever, and severe pain was noted in this diabetic patient with Fournier gangrene. (Photo contributor: R. Jason Thurman, MD.)

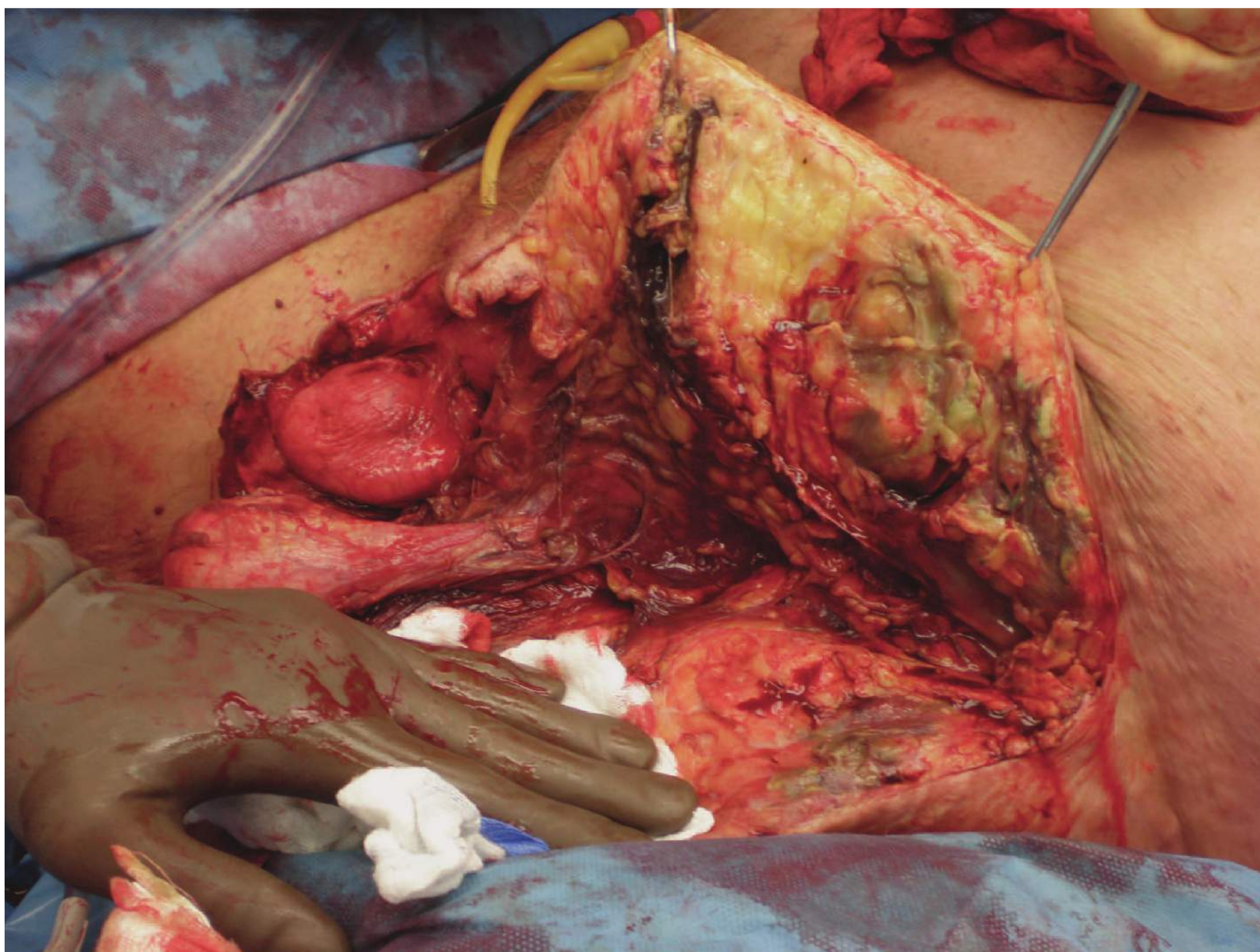


FIGURE 8.17 ■ Fournier Gangrene. The extent of necrosis in Fournier gangrene can be formidable as seen in this patient. (Photo contributor: R. Jason Thurman, MD.)

Clinical Summary

Paraphimosis is the entrapment of a retracted foreskin that cannot be reduced behind the coronal sulcus. Pain, swelling, and erythema are common. If severe, the constriction causes edema and venous engorgement of the glans, which can lead to arterial compromise with subsequent tissue necrosis. In contrast to paraphimosis, phimosis is the inability to retract the foreskin.

Management and Disposition

Squeeze the glans firmly for 5 minutes to reduce the swelling. This can lead to successful reduction of the foreskin. If manual reduction fails, consult a urologist for local infiltration of anesthesia with vertical incision of the constricting band.

Pearls

1. In the presence of arterial compromise, if a urologist is not immediately available, anesthetize and incise the constricting band.
2. The patient should be referred to a urologist for circumcision if successfully reduced.
3. Phimosis is “physiologic” in young boys (generally <5 to 6 years old).
4. Phimosis, if “reduced” (retracted proximally over the glans), can cause a paraphimosis—a true emergency.



FIGURE 8.18 ■ Paraphimosis. Moderate edema of retracted foreskin, which is entrapped behind the coronal sulcus. (Photo contributor: Lawrence B. Stack, MD.)



FIGURE 8.19 ■ Paraphimosis. Edema of retracted foreskin, which is entrapped behind the coronal sulcus. (Photo contributor: David Effron, MD.)



FIGURE 8.20 ■ Phimosis. Phimosis in a young patient is physiologic, but also may have obstruction from meatal stenosis and scarring. (Photo contributor: Alan B. Storrow, MD.)

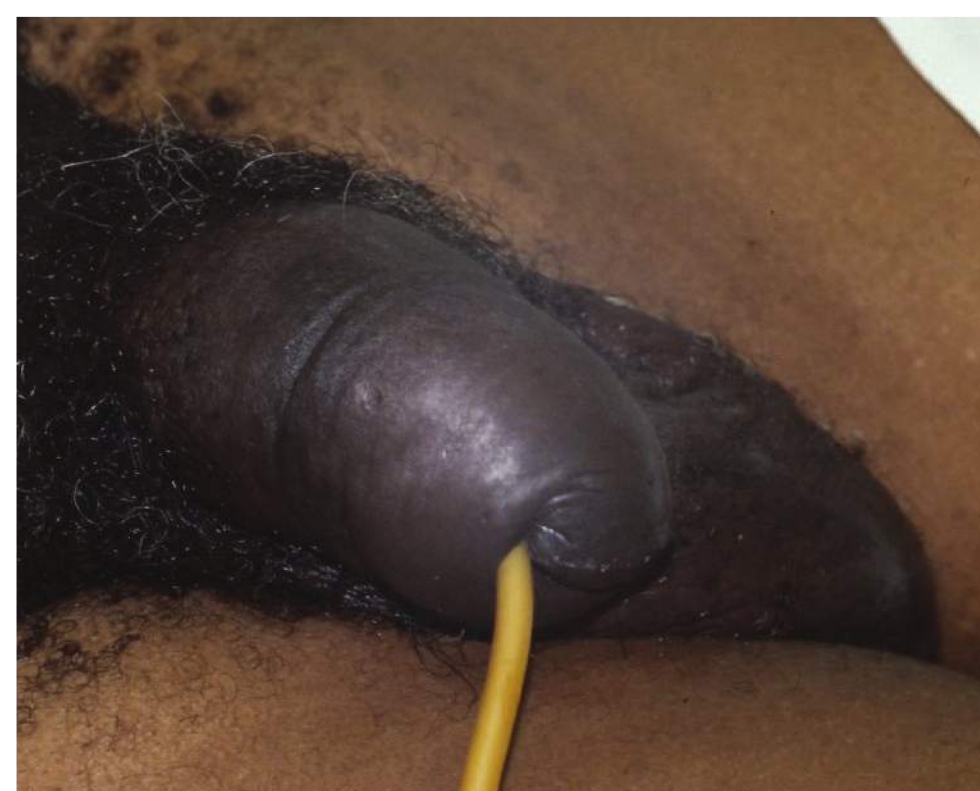


FIGURE 8.21 ■ Phimosis. Phimosis in an adult which required catheterization to relieve obstruction. (Photo contributor: David Effron, MD.)

Clinical Summary

These patients present with persistent, usually painful erection due to pathologic engorgement of the corpora cavernosa. Patients may present acutely or several days after their first symptoms. The glans penis and corpus spongiosum are not engorged and remain flaccid. The physiology is either arterial, which is generally traumatic, or veno-occlusive. Reversible causes of veno-occlusive disease include sickle cell disease, direct injection of erectile agents, and leukemic infiltration. Nonreversible causes include idiopathic ones (the most common), spinal cord lesions, and medications.

Management and Disposition

Treat diseases that are associated with reversible priapism. Ice packs to the perineum are frequently unsuccessful. Terbutaline given orally or subcutaneously occasionally reverses priapism. Aspiration of blood from the corpus cavernosum can lead to detumescence and should be followed by a compressive dressing. Injectable erectile agents can be reversed by aspiration followed by intracavernous injection of α -adrenergic agents such as phenylephrine. Obtain urologic consultation immediately for traumatic or persistent priapism despite initial treatment, with close urologic follow-up for those that are successfully reversed in the emergency department.

Pearls

1. Advise patients that impotence is a frequent complication of priapism, regardless of the length of the symptoms or the success of any treatment.
2. A prolonged erection with a flaccid glans and corpus spongiosum confirms priapism.
3. Urinary retention often accompanies priapism.



FIGURE 8.23 ■ Priapism. Aspiration of the corpora cavernosa is demonstrated. (Photo contributor: David Effron, MD.)



FIGURE 8.22 ■ Priapism. A painful persistent erection due to pathologic engorgement of the corpora cavernosa is seen in this patient with sickle cell disease. The glans penis and corpus spongiosum are not engorged. (Photo contributor: Kevin J. Knoop, MD, MS.)



FIGURE 8.24 ■ Traumatic Priapism. A persistent erection is seen in this trauma victim who has sustained a cord injury. (Photo contributor: R. Jason Thurman, MD.)

Clinical Summary

Urethral injury is rarely an isolated event; it is often associated with multiple trauma. Anterior urethral injuries are most often the result of a straddle injury and may present late (many patients are still able to void) with a local infection or sepsis from extravasated urine. Posterior urethral injuries occur in motor vehicle and motorcycle accidents and are usually the result of pelvic fractures. Patients have blood at the urethral meatus, cannot void, and have perineal bruising. In men, the prostate is often boggy or free-floating or may not be palpable at all if there is a retroperitoneal hematoma between the prostate and the rectum.

Management and Disposition

Do not allow urethral instrumentation such as Foley catheterization prior to a retrograde urethrogram with highly concentrated water-soluble contrast. If there is only a partial anterior tear, gently attempt catheterization but abandon it at the first sign of resistance. If catheterization is unsuccessful and whenever there is a posterior tear, place a suprapubic catheter with a trocar if relief of bladder distention is required prior to operative repair.

Pearls

1. Foley catheter insertion is contraindicated in patients with a suspected urethral injury prior to a retrograde urethrogram.
2. Urethral injury should be suspected in the multiple-trauma patient who is unable to void or has blood at the meatus, a high-riding prostate, or perineal trauma.
3. Vaginal lacerations due to trauma in women should prompt consideration of a urethral tear.
4. Occasionally, urine from an anterior urethral tear will extravasate into the scrotum, causing marked swelling.
5. Posterior injuries are frequently associated with other intra-abdominal injury.

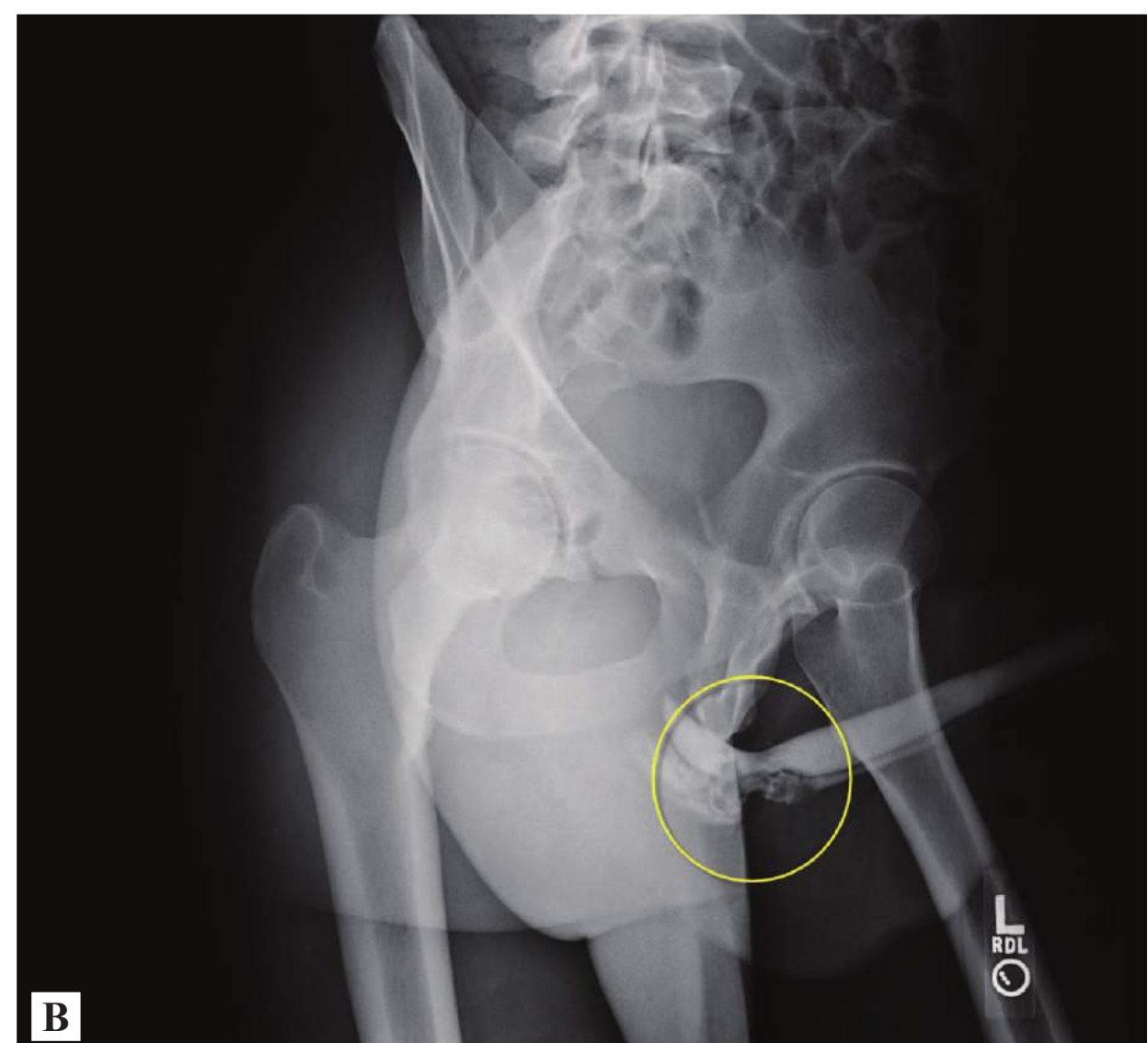


FIGURE 8.25 ■ Urethral Rupture. (A) Blood at the urethral meatus in a patient with an anterior urethral rupture secondary to a straddle injury. (B) A retrograde urethrogram shows extravasation of dye indicating rupture. (Photo contributor: David Effron, MD.)

Clinical Summary

Patients usually present complaining of trauma during sexual arousal and often relate a sudden “snapping” sound or sensation, pain, and deformity, which is caused by a tearing of the tunica albuginea. The shaft of the penis is swollen and often angulated at the fracture site.

Management and Disposition

If the patient cannot urinate, obtain a retrograde urethrogram to rule out urethral injury. Obtain urologic referral as they frequently are taken immediately to the operating room for repair.

Pearls

1. Patients sometimes concoct elaborate stories which are not sexually related surrounding the circumstances of injury, but penile fracture most commonly occurs during sexual arousal.
2. Penile implants are also subject to injury in a similar fashion.



FIGURE 8.27 ■ Fractured Penis. Penile fracture with ecchymosis and edema without angulation. (Photo contributor: Emergency Medicine Department, Naval Medical Center Portsmouth.)



FIGURE 8.26 ■ Fractured Penis. Penile fracture with ecchymosis and angulation. (Photo contributor: Stephen W. Corbett, MD.)

Clinical Summary

A hair or filament that wraps around the penis can lead to a surgical emergency. The constricting band will impair distal venous and lymphatic drainage causing more edema and further impairing drainage in a vicious cycle. The ultimate sequela is arterial compromise and amputation. These are most commonly seen in young children although it has also been reported in men who use penile rings or constrictors.

Management and Disposition

Immediate release of the constriction generally gives relief and restores any impaired circulation. Take care not to injure

any underlying structures. If the edema is so great that the constricting band cannot be easily released, obtain emergent urological consultation.

Pearls

1. Edema may obscure the hair or filament and bury it subcutaneously.
2. Measures to decrease the swelling, such as direct pressure and ice packs, may facilitate visualization and incision of the tourniquet.
3. Clitoral tourniquets have been described.
4. Penile tourniquet should be considered when presented with a fussy infant.



FIGURE 8.28 ■ Penile Tourniquet. Penile engorgement due to self-inflicted tourniquet in a prepubescent boy. (Photo contributor: Lawrence B. Stack, MD.)

Clinical Summary

In straddle injury, the patient has pain, swelling, contusion, and hematoma of the perineum or scrotum following direct blunt trauma. This injury is commonly caused by a fall onto a bicycle frame cross-tube, playground equipment, or a toilet seat. Swelling can be severe enough to interfere with urination. Scrotal contents can also be contused or crushed with this injury.

Management and Disposition

Treatment is supportive and includes cold packs, elevation, rest, and analgesics. If unable to void, catheterize the patient.

Pearls

1. Perineal laceration can be obscured by swelling if a careful examination is not performed.
2. Pelvic radiographs should be obtained in all perineal injuries.



FIGURE 8.29 ■ Straddle Injury. Marked ecchymosis, swelling, and contusion of the perineum in an adolescent girl. Examination under anesthesia was required to determine the extent of this patient's injuries. (Photo contributor: Lawrence Stack, MD.)

3. Men and women are at high risk for urethral injuries with this type of injury.
4. Straddle injury is differentiated from abuse with a good history from a reliable caregiver that matches the injury.



FIGURE 8.30 ■ Straddle Injury. Contusion of the scrotum and lower abdomen in a young boy consistent with a straddle injury. (Photo contributor: David W. Munter, MD.)



FIGURE 8.31 ■ Straddle Injury. This unfortunate patient suffered a vaginal tear as a result of slipping forward off the seat of her bicycle and landing on its top tube. (Photo contributor: R. Jason Thurman, MD.)

Clinical Summary

Balanoposthitis is an infection and inflammation of the glans penis that also involves the overlying foreskin (prepuce). Balanitis is isolated to the glans, whereas posthitis involves only the prepuce. Pain, erythema, and edema of the affected parts of the penis are typically present. Patients may refrain from urination secondary to dysuria, or the edema may induce meatal occlusion leading to urinary retention or obstruction. Common etiologies include overgrowth of normal bacterial flora secondary to poor hygiene (pediatric patients), sexually transmitted diseases (adolescents and adults), and candidal infections (the elderly or immunocompromised).

Management and Disposition

Treatment is directed at the suspected etiology. Warm soaks and topical antibiotics (bacitracin) are the mainstay of therapy for infectious etiologies owing to poor hygiene. Counsel parents about proper cleansing and handling of the prepuce. Oral or intravenous antibiotics may be indicated if there is

an accompanying cellulitis. If urinary obstruction is present, attempt catheterization using a small catheter. If catheterization is unsuccessful, urologic consultation for emergent surgical correction of the prepuce is required. Candidal infections are treated with meticulous hygiene and topical antifungal agents. Routine urologic referral is indicated for suspected lichen sclerosus et atrophicus and squamous cell carcinoma.

Pearls

1. The inability to retract the foreskin completely is normal in young boys up to age 4 or 5. Attempting to do so could cause a paraphimosis, a true emergency.
2. Placing the child in a bathtub with warm water will help alleviate difficulty with micturition assuming that no obstruction is present.
3. Candidal balanitis or balanoposthitis may be indicative of an undiagnosed immunocompromised state.
4. Suspected sexually transmitted diseases require treatment for the partners as well.



FIGURE 8.32 ■ Balanoposthitis. Note the erythema, localized edema, and significantly constricted preputial orifice of the distal penis. (Photo contributor: Lawrence B. Stack, MD.)



FIGURE 8.33 ■ Balanitis. Candidal balanitis in an elderly patient with no other complaints. New-onset diabetes was diagnosed. (Photo contributor: Kevin J. Knoop, MD, MS.)



FIGURE 8.34 ■ Balanoposthitis. This toddler presented with physiologic phimosis, inflamed distal foreskin, dysuria, and swelling of the glans. (Photo contributor: James Palma, MD.)



FIGURE 8.35 ■ Balanoposthitis. Candidal balanoposthitis in an uncircumcised man. (Photo contributor: Alan Storrow, MD.)

Clinical Summary

Zipper injury is usually seen in young children. The foreskin becomes entrapped in the teeth of the zipper or between the fastener and the zipper teeth as the zipper is being opened (downward). Accessibility to the median bar of the zipper facilitates removal.

Management and Disposition

Treatment is directed at removing the zipper and freeing the entrapped penile foreskin or prepuce while minimizing trauma and pain. A penile block with local injection at the base of the penis eases removal, but might not be necessary if the child is cooperative and removal can be effected atraumatically. Several methods are described depending on the mechanism.

Pearls

1. Zipper entrapment of the penis is one of the most common genital injuries in prepubertal boys.
2. When tissue is entrapped by the zipper teeth only, release can be effected by cutting the cloth of the zipper either between the teeth or below the point of entrapment.
3. Cutting the median bar with a bone cutter allows the whole zipper to fall apart and release the entrapped skin.
4. Lateral compression of the distal zipper fastener with pliers may immediately release the tissue without need



FIGURE 8.36 ■ Penile Zipper Injury. Entrapment of the foreskin between the fastener and the zipper teeth is seen. The median bar is exposed and easily accessible for cutting. (Photo contributor: Kevin J. Knoop, MD, MS.)

for anesthesia. This method requires application of equal pressure to both the anterior and posterior fastener plates simultaneously.

5. After removal, ensure that the urethra is patent and the child can void.



FIGURE 8.37 ■ Penile Zipper Injury. Separation of the zipper by cutting the median bar of the zipper with a bone cutter allows release. (Photo contributor: Kevin J. Knoop, MD, MS.)



FIGURE 8.38 ■ Penile Zipper Injury. Crushed tissue after zipper removal did not obstruct urine flow in this patient. (Photo contributor: Kevin J. Knoop, MD, MS.)

Clinical Summary

A varicocele forms when the veins along the spermatic cord become engorged due to valve incompetence and is usually asymptomatic. Patients may complain of a dragging sensation or heaviness of the testicle, or notice the painless mass of veins itself (bag of worms). It usually develops slowly by the third decade of life and is on the left side 98% of the time.

Management and Disposition

Varicocele is generally harmless, but severe ones can affect fertility by impairing arterial flow to or temperature of the testicle causing atrophy. Obtain an ultrasound to assure diagnosis. Refer to a urologist and, if symptomatic, prescribe scrotal support.

Pearls

1. Rapid appearance or presentation on the right side or at an age greater than 40 years should raise concern for extrinsic compression from an abdominal/pelvic mass or renal tumor.
2. Superior mesenteric artery compression of the left renal vein against the aorta (nutcracker syndrome) can present as a varicocele.
3. Varicocele forms on the left side because the left spermatic vein anastomosis to the renal vein is at 90 degrees, while the right side anastomosis is considerably less acute.

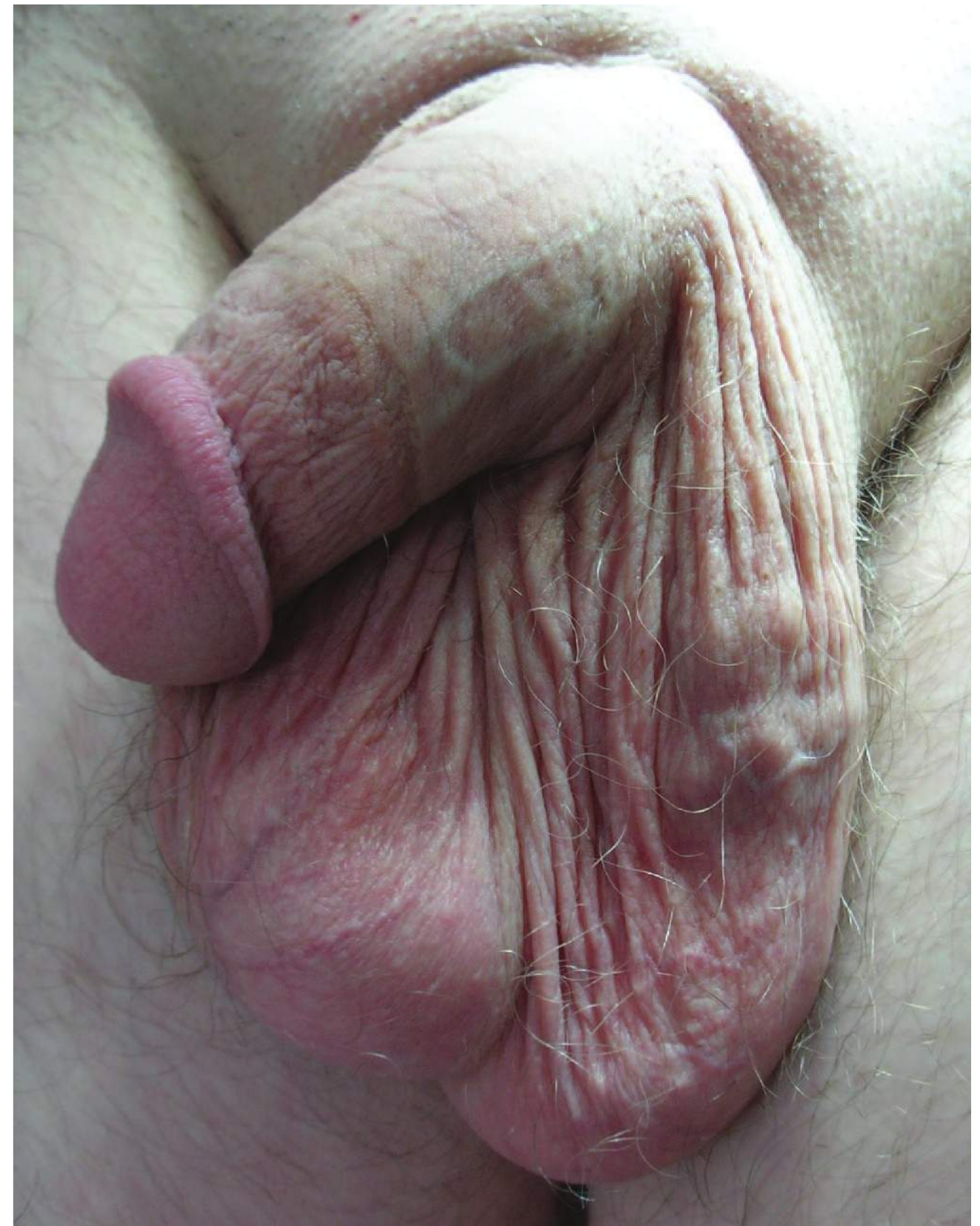


FIGURE 8.39 ■ Varicocele. Palpation of the nontender, twisted mass along the spermatic cord feels like a “bag of worms.” (Photo contributor: Dr. Paul Turek (www.TheTurekClinic.com).)