

Chapter 9

SEXUALLY TRANSMITTED INFECTIONS AND ANORECTAL CONDITIONS

Suzanne Dooley-Hash
Brian R. Sharp



Acute thrombosed external hemorrhoid. Young male suffered sudden onset of rectal pain and bleeding after a bowel movement. (Photo contributor: Lawrence B. Stack, MD.)

The authors wish to thank Diane M. Birnbaumer and Lynn K. Flowers for their contributions to prior editions.

Clinical Summary

Syphilis is a systemic illness caused by *Treponema pallidum*. The disease occurs in stages, with each stage having distinct physical findings. Primary syphilis is heralded by the development of a single lesion at the site of inoculation. This usually occurs within 2 to 6 weeks of exposure, but may take as long as 90 days. Patients often do not notice or seek care for the primary lesion. They may, however, present with a solitary, round, painless genital chancre or ulcer. The ulcer may also be slightly painful and multiple ulcers are sometimes seen. The base of the genital ulcer is typically dry in males and moist in females; purulent fluid in the base is uncommon. The borders of the ulcer are often indurated. Although genital ulcers are most common, ulcers may develop at any exposed site. Bilateral, nontender, nonfluctuant adenopathy is common. Without treatment, ulcers will resolve spontaneously within 3 to 12 weeks as the infection progresses to the secondary stage. Patients with primary syphilis are at risk for concurrent infection with other sexually transmitted infections.

Secondary syphilis involves systemic dissemination of *T pallidum* and manifests first with the development of diffuse, nonpruritic macules. The macules develop within 2 to 10 weeks after resolution of the primary ulcers. The macules later evolve into a maculopapular eruption with small, round or annular lesions and involve primarily the trunk, palms, and soles. Diffuse, painless lymphadenopathy is also seen at this stage. Mucous patches may develop on the tongue and buccal mucosa. Condyloma lata and patchy alopecia can also be seen during this stage. The manifestations of this stage resolve without treatment in several months. Despite resolution of the symptoms, untreated syphilis will persist in the body and may become latent or later manifest as tertiary syphilis, a discussion of which is beyond the scope of this text.

Management and Disposition

To confirm the diagnosis, check an RPR or VDRL. Also test the patient for HIV and other sexually transmitted infections such as *Neisseria gonorrhea* and *Chlamydia*. Parenteral penicillin G is the preferred treatment for every stage of syphilis. For primary or secondary syphilis, treat with a single dose of benzathine penicillin G, 2.4 million units, intramuscularly. Treat penicillin-allergic patients with either doxycycline 100 mg orally twice daily or tetracycline 500 mg orally four times daily for 14 days. Refer pregnant patients with penicillin allergy for desensitization and subsequent treatment with pen G as the alternative treatments are both contraindicated in pregnancy.



FIGURE 9.1 ■ Primary Chancre—Male. This dry-based, painless ulcer with indurated borders is typical for a primary chancre in a male patient. (Reproduced with permission from Wisdom A. A Colour Atlas of Sexually Transmitted Diseases. London: Mosby-Wolfe Ltd; 1992. Copyright © Elsevier.)



FIGURE 9.2 ■ Primary Chancre—Male. Painless, solitary penile ulcer in a sexually active male with multiple partners. (Photo contributor: Larry B. Mellick, MD.)



FIGURE 9.3 ■ Primary Chancre—Female. A solitary, painless genital chancre with a clean base in a patient with primary syphilis. (Photo contributor: Department of Dermatology, Naval Medical Center, Portsmouth, VA.)



FIGURE 9.4 ■ Secondary Syphilis—Trunk. Rash on trunk due to secondary syphilis. (Photo contributor: Andrew Wong, MD.)



FIGURE 9.6 ■ Secondary Syphilis—Palms. Resolving palmar eruption of secondary syphilis. (Photo contributor: Andrew Wong, MD.)



FIGURE 9.5 ■ Secondary Syphilis—Palms. Papulosquamous eruption of secondary syphilis. Note the annular appearance of the palmar scales. (Photo contributor: H. Hunter Handsfield, MD. From Handsfield HH (ed): *Atlas of Sexually Transmitted Diseases*, 3rd ed. New York: McGraw-Hill; 2011.)



FIGURE 9.7 ■ Secondary Syphilis—Soles. Hyperkeratotic plantar rash in a patient with secondary syphilis. (Photo contributor: H. Hunter Handsfield, MD. From Handsfield HH (ed): *Atlas of Sexually Transmitted Diseases*, 3rd ed. New York: McGraw-Hill; 2011.)

Serum titers need to be followed in 6 to 12 months to confirm adequate response to treatment. Presumptively treat any sexual partners the patient has had within 90 days and recommend serologic testing for any partners outside of 90 days with subsequent treatment based on the results. All cases of syphilis must be reported to the appropriate public health agency.

Warn patients about the potential development of the Jarisch-Herxheimer reaction which is caused by the massive release of endotoxins from the dying spirochetes following antibiotic treatment. This reaction usually occurs within hours of treatment. It is characterized by fever, headache, malaise, and myalgias and is self-limited.

Pearls

1. Consider dark-field microscopy examination of scrapings from the lesion of the primary stage or from the rash, mucocutaneous patches, or condyloma lata of the secondary stage to rapidly confirm the diagnosis.
2. Lesions of secondary syphilis are very infectious. Always wear gloves when examining a patient with a rash that may be due to secondary syphilis.

3. Pretreatment with nonsteroidal anti-inflammatory drugs may attenuate the Jarisch-Herxheimer reaction.



FIGURE 9.8 ■ Mucous Patches. Oral involvement in secondary syphilis manifested by mucous patches. These lesions are very infectious, and dark-field examination is often positive for spirochetes. (Reproduced with permission from Morse SA, Holmes KK, Ballard RC, Moreland AA (eds). *Atlas of Sexually Transmitted Diseases and AIDS*. 4th ed. Saunders Elsevier; 2010. Copyright © 2010 Elsevier, Ltd.)



FIGURE 9.9 ■ Condyloma Lata. Typical appearance of the smooth, broad-based, hypopigmented flat plaques of condyloma lata, a manifestation of secondary syphilis. (Photo contributor: H. Hunter Handsfield, MD. From Handsfield HH (ed): *Atlas of Sexually Transmitted Diseases*, 3rd ed. New York: McGraw-Hill; 2011.)

Clinical Summary

Infection with *N gonorrhea* may occur at any exposed site and has an incubation period of 2 to 7 days. Up to 10% of infections are asymptomatic in men as are as many as 80% in women. Urethritis is the most common manifestation of infection in men and is characterized by copious amounts of purulent urethral discharge and dysuria. Although women may also develop urethritis and dysuria, their infections more commonly manifest as cervicitis. If symptoms are present, they include vaginal irritation, discharge, or spotting, particularly with intercourse. On speculum examination, the cervix appears friable and a mucopurulent endocervical exudate may be present.

N gonorrhea infections can spread throughout the body. Disseminated gonococcal infections (DGI) occur more frequently in women. DGI most often present as a monoarticular septic arthritis of a knee, elbow, wrist, or ankle. Endocarditis and meningitis must be ruled out in any patient with DGI. A rash consisting of necrotic pustules on an erythematous base may also be present. The skin lesions may ulcerate, are more commonly found on the distal extremities, and may involve mucosal surfaces.

Ophthalmic gonococcal infections can occur in anyone but are seen most often in neonates exposed during birth. Gonococcal conjunctivitis develops within 2 to 7 days of birth and is characterized by chemosis and copious purulent exudate; untreated, these patients can develop endophthalmitis and perforation of the globe with permanent loss of vision.

Management and Disposition

Urethritis and cervicitis: Treat with a single dose of ceftriaxone 250 mg intramuscularly. Treatment with one dose of oral

cefixime 400 mg orally is no longer recommended as an alternative and if used should be followed with a test of cure in 7 days.

Conjunctivitis: Treat adults with a single dose of ceftriaxone 1 g intramuscularly. Treat infants and children over 2 months of age with ceftriaxone 25 to 50 mg/kg once or use cefotaxime 100 mg/kg for those younger than 2 months; eye irrigation with normal saline as needed. All neonates should receive empiric treatment with ophthalmic erythromycin ointment at birth.

DGI: Preferred initial treatment is ceftriaxone 1 g intravenously or intramuscularly once daily for at least 7 to 10 days. Patients with suspected endocarditis or meningitis are treated with higher doses of ceftriaxone (1-2 g every 12 hours). Alternative agents for parenteral treatment are: cefotaxime 1 g intravenously every 8 hours, or ceftizoxime 1 g intravenously every 8 hours. Parenteral treatment is continued for 24 to 48 hours after symptoms improve and for a minimum of 7 to 10 days. Parenteral treatment is followed by a 7 to 10 course of oral antibiotics; cefixime 400 mg orally twice daily or cefpodoxime 400 mg orally twice daily. All sexual partners should be notified and treated empirically. Gonorrhea is a reportable disease.

Pearls

1. Treat patients with gonorrhea for presumed concurrent infection with Chlamydia. Coinfection with these organisms is seen in 30% of men with urethritis and 50% of women with cervicitis.



FIGURE 9.10 ■ Male Gonococcal Urethritis. Purulent urethral discharge from a patient with gonococcal urethritis. (Photo contributor: Larry B. Mellick, MD.)



FIGURE 9.11 ■ Female GC Urethritis. Gonococcal urethritis in a female patient. Note the purulent urethral discharge. (Reproduced with permission from Morse SA, Holmes KK, Ballard RC, Moreland AA (eds). *Atlas of Sexually Transmitted Diseases and AIDS*. 4th ed. Saunders Elsevier; 2010. Copyright © 2010 Elsevier, Ltd.)

2. Gonococcal arthritis is the most common cause of monoarticular arthritis in young, sexually active patients.
3. Suspect gonococcal conjunctivitis in patients with copious eye discharge and chemosis.
4. Cultures are the gold standard for confirming the diagnosis of DGI. Selective media should be used when specimens are obtained from the cervix, pharynx, urethra, or rectum. Nonselective medium (blood agar) should be used in culturing joint fluid, blood, or cerebrospinal fluid.



FIGURE 9.12 ■ Cervicitis. Endocervical purulent exudate in an asymptomatic patient with gonococcal cervicitis. The cervix is very friable. (Photo contributor: King K. Holmes, MD. From Handsfield HH (ed): *Atlas of Sexually Transmitted Diseases*, 3rd ed. New York: McGraw-Hill; 2011.)

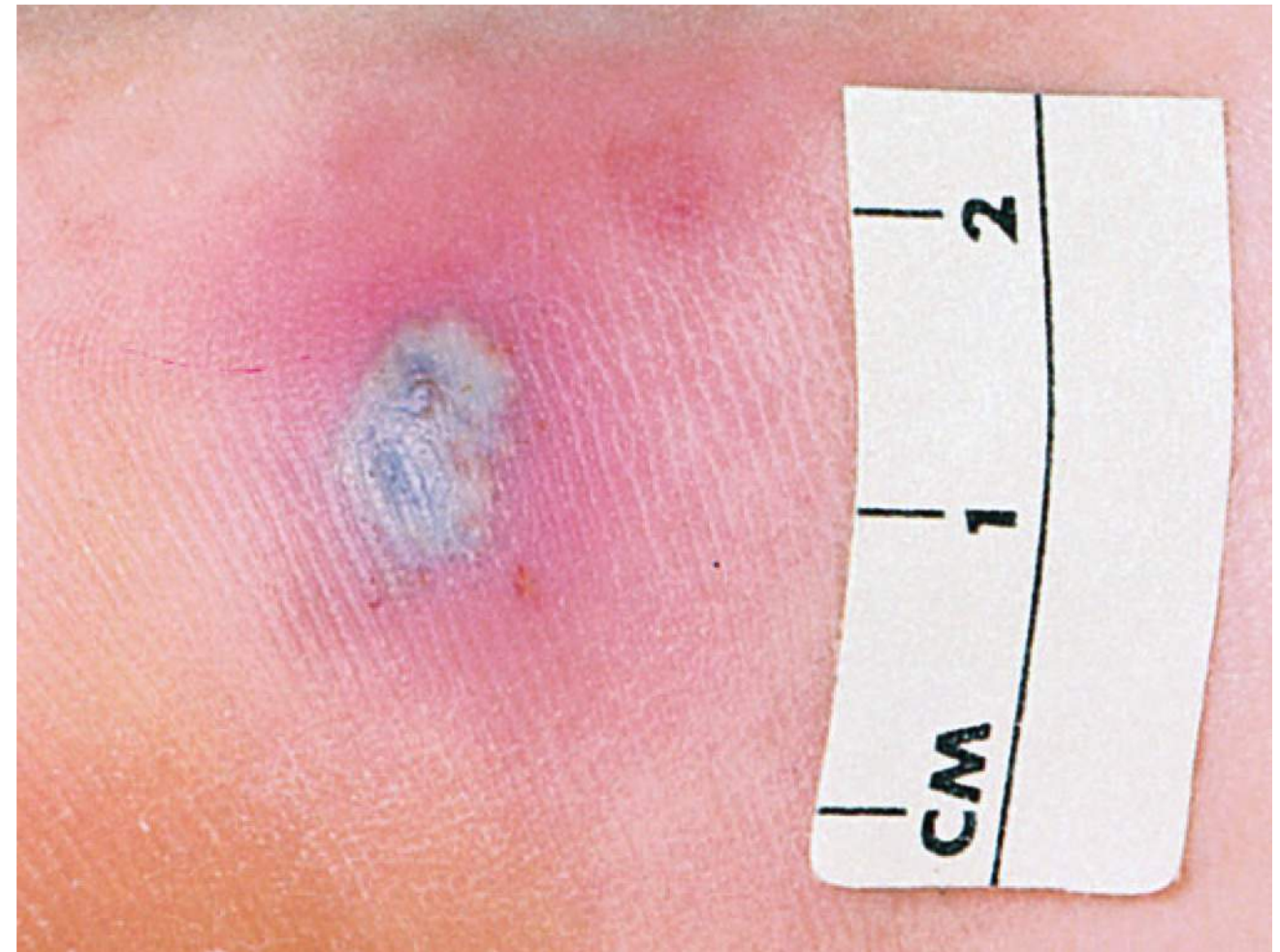


FIGURE 9.14 ■ Skin Eruptions. Hemorrhagic pustules suggestive of disseminated gonococcal infection. (Photo contributor: H. Hunter Handsfield, MD. From Handsfield HH (ed): *Atlas of Sexually Transmitted Diseases*, 3rd ed. New York: McGraw-Hill; 2011.)

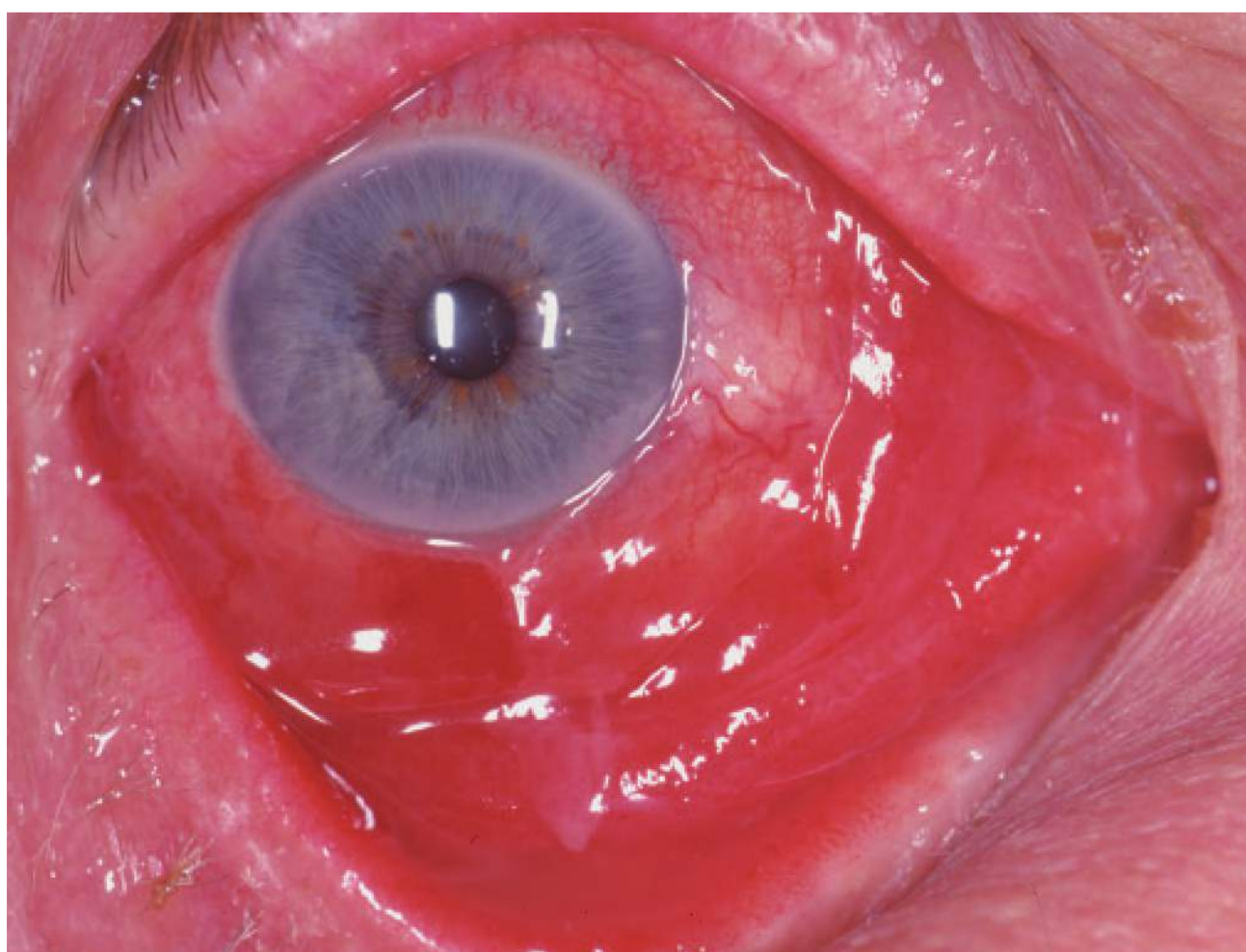


FIGURE 9.13 ■ Hyperacute Conjunctivitis. Chemotic conjunctiva and copious purulent exudate in a patient with gonococcal conjunctivitis. (Photo contributor: Lawrence B. Stack, MD.)



FIGURE 9.15 ■ Bartholin Abscess. Enlarged, fluctuant, tender Bartholin abscess of the labia, usually but not always a result of gonorrhea. (Photo contributor: Lawrence B. Stack, MD.)

Clinical Summary

Infections with *Chlamydia trachomatis* typically have an incubation period of 1 to 3 weeks. Men may develop urethritis and present with a thin, nonpurulent urethral discharge and/or dysuria. Up to 50% of men with urethritis may be asymptomatic. Men may also develop epididymitis which can cause sterility if untreated.

Women may also develop urethritis and present with dysuria. These infections can be misdiagnosed as urinary tract infection due to the presence of pyuria on urinalysis. Chlamydial cervicitis in women is usually asymptomatic and often goes undiagnosed. Chlamydial infections in women are more likely to spread to the upper genital tract and may result in pelvic inflammatory disease. This can lead to tubo-ovarian abscess formation with resultant fallopian tube scarring and other sequelae of infection that increase the woman's risk for subsequent ectopic pregnancy. Chlamydial infections are a major cause of female infertility.

Management and Disposition

Preferred treatment is a single oral dose of azithromycin 1 g given in the emergency department. A 7-day course of doxycycline 100 mg taken orally twice daily is equally effective, but should not be used if there are any concerns about medication compliance with the longer course. Alternative treatments include a 7-day course of either ofloxacin 300 mg orally twice daily, or levofloxacin 500 mg orally once daily, or erythromycin 500 mg orally four times daily, or erythromycin ethylsuccinate 800 mg four times daily. Advise patients that

their sexual partners should be examined and treated appropriately and, to reduce partner transmission, recommend sexual abstinence for 7 days.

Pearls

1. Chlamydial infection often accompanies gonococcal infection. Empirically treat any patient being treated for gonorrhea for concurrent chlamydial infection and vice versa.
2. Women with chlamydial infections may be completely asymptomatic for long periods of time.
3. Consider syphilis serologic testing and HIV testing in patients presenting with any sexually transmitted infection.

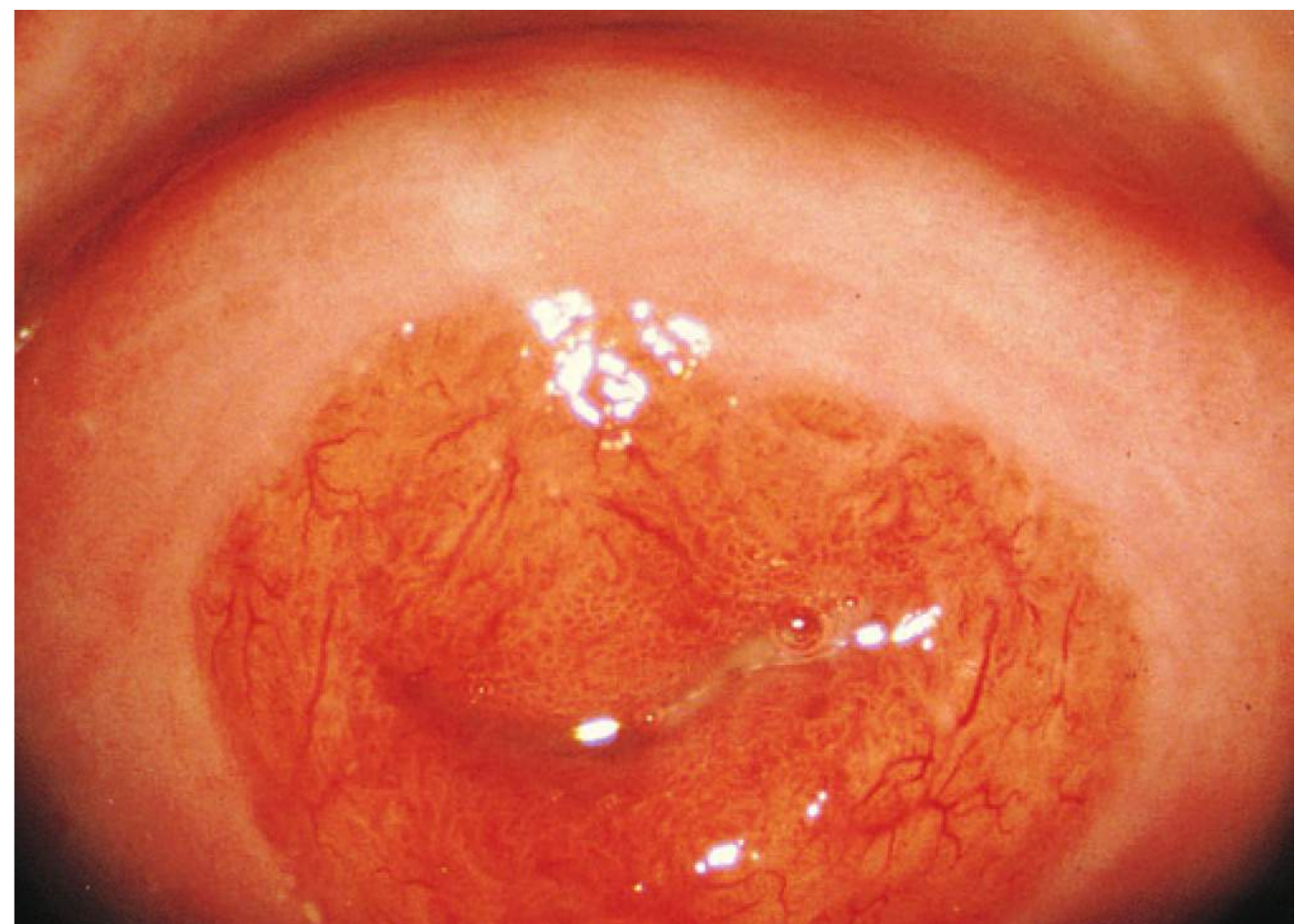


FIGURE 9.17 ■ Chlamydial Cervicitis. Mucopurulent cervicitis from chlamydial infection. (Photo contributor: Claire E. Stevens, PA. From Handsfield HH (ed): *Atlas of Sexually Transmitted Diseases*, 3rd ed. New York: McGraw-Hill; 2011.)

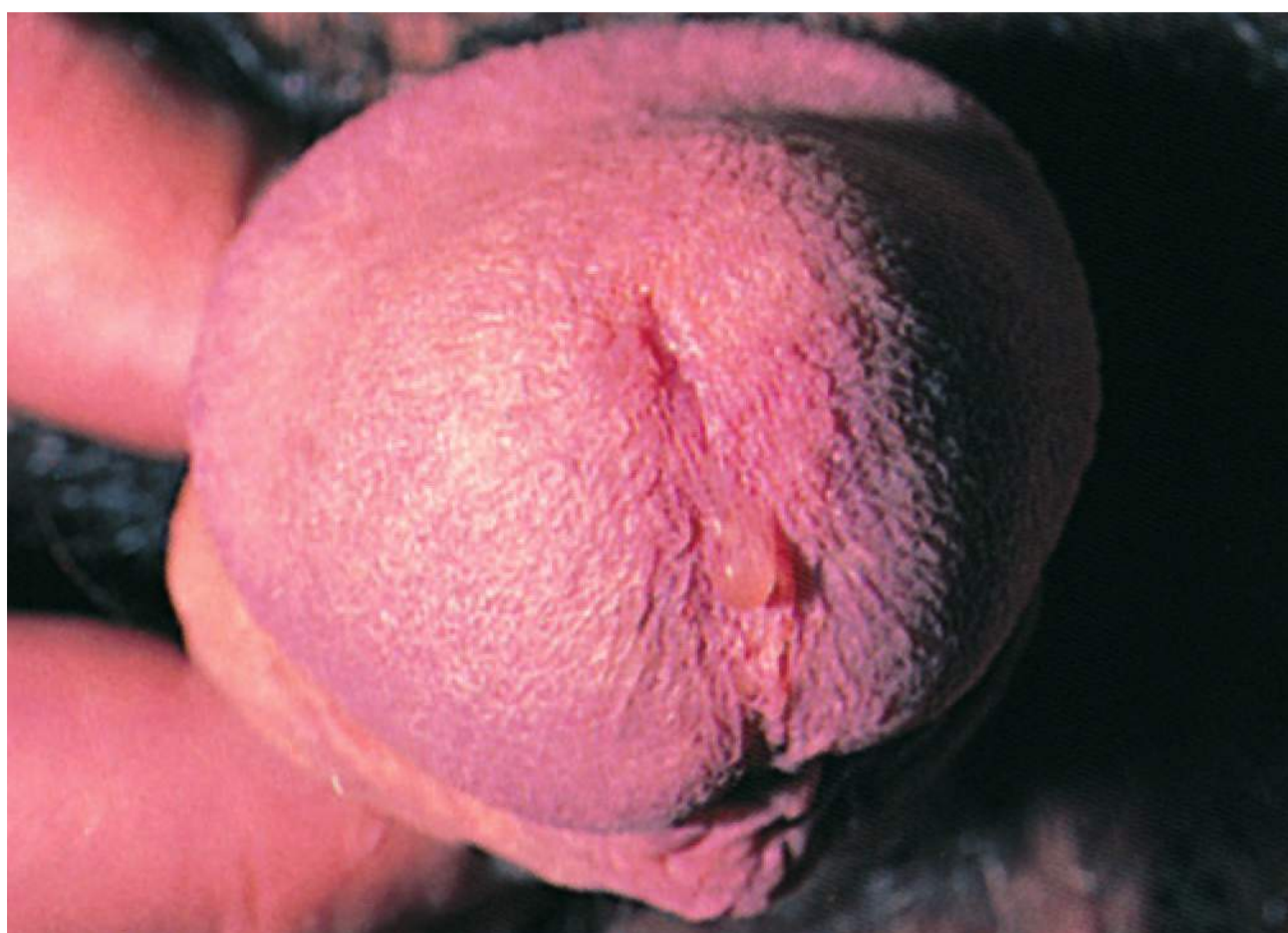


FIGURE 9.16 ■ Male Chlamydial Urethritis. Thin urethral discharge of chlamydial urethritis. (Photo contributor: Walter Stamm, MD. From Handsfield HH (ed): *Atlas of Sexually Transmitted Diseases*, 3rd ed. New York: McGraw-Hill; 2011.)



FIGURE 9.18 ■ Chlamydia Conjunctivitis. Follicles (focal areas of conjunctival inflammation) and a thin watery discharge are seen typical of chlamydia conjunctivitis. This is usually an indolent course lasting weeks to months. Follicles and inflammation are best seen on the upper tarsal conjunctiva. (Photo contributor: Jeffrey Goshe, MD.)

Clinical Summary

Herpes genitalis refers to infection with the herpes simplex virus (HSV)—most commonly HSV-2. The patient may present with a symptomatic primary infection (PI), a first-episode nonprimary infection, or a recurrent episode. The majority of individuals with HSV, however, are unaware of their infection.

PI refers to the initial transfer of the virus. The patient may remain asymptomatic at this time, and may later present with a first-episode nonprimary infection. Patients who develop symptoms with the PI may experience a prodromal viral syndrome consisting of a low-grade fever and myalgias that start 1 to 3 days prior to the onset of the characteristic rash of genital herpes. This rash consists of multiple groups of small vesicles that quickly ulcerate into shallow, painful ulcers on an erythematous base. The ulcers may coalesce and form larger ulcers, especially in women. The lesions are typically intensely painful, last up to 3 weeks, and heal without scarring. Women may also experience urinary retention due to sacral autonomic dysfunction. Although the majority of PIs are relatively mild and self-limited, more serious infections can occur, especially in the immunosuppressed. Up to 10% of

patients develop aseptic meningitis. Disseminated infections can also result in a diffuse rash, pneumonitis, hepatitis, and encephalitis.

The clinical presentation of first-episode nonprimary genital herpes and recurrent genital herpes is less dramatic. Systemic symptoms are usually absent and patients typically have only a single to a few painful lesions. First-episode nonprimary outbreaks resolve within 1 to 2 weeks, whereas recurrent episodes generally last less than a week. Recurrences of genital herpes are often heralded by a warning prodrome of tingling or numbness in the perineal area.

Management and Disposition

Counseling of patients with genital herpes that this is a sexually transmitted infection with a chronic and recurrent course is imperative. Evaluate all patients for other possible infections and recommend evaluation and appropriate treatment for all sexual partners. Definitive diagnostic testing includes cell culture, HSV polymerase chain reaction, and serologic testing.

Advise patients that treatment with antiviral agents can decrease the length and severity of symptoms but cannot completely eradicate the infection from the body. Antivirals may also be used for suppressive treatment for patients with frequent recurrences or immunosuppression, and decrease episodes by 70% to 80%.

Treat primary genital herpes with acyclovir, 400 mg orally three times daily, or 200 mg orally five times daily, for 7 to 10 days or until symptoms resolve. Alternatives include famciclovir 250 mg orally three times daily or valacyclovir 1 g orally twice daily for 7 to 10 days.



FIGURE 9.19 ■ Primary Genital Herpes—Female. Multiple coalescing superficial ulcerations of primary genital herpes. (Photo contributor: Lawrence B. Stack, MD.)

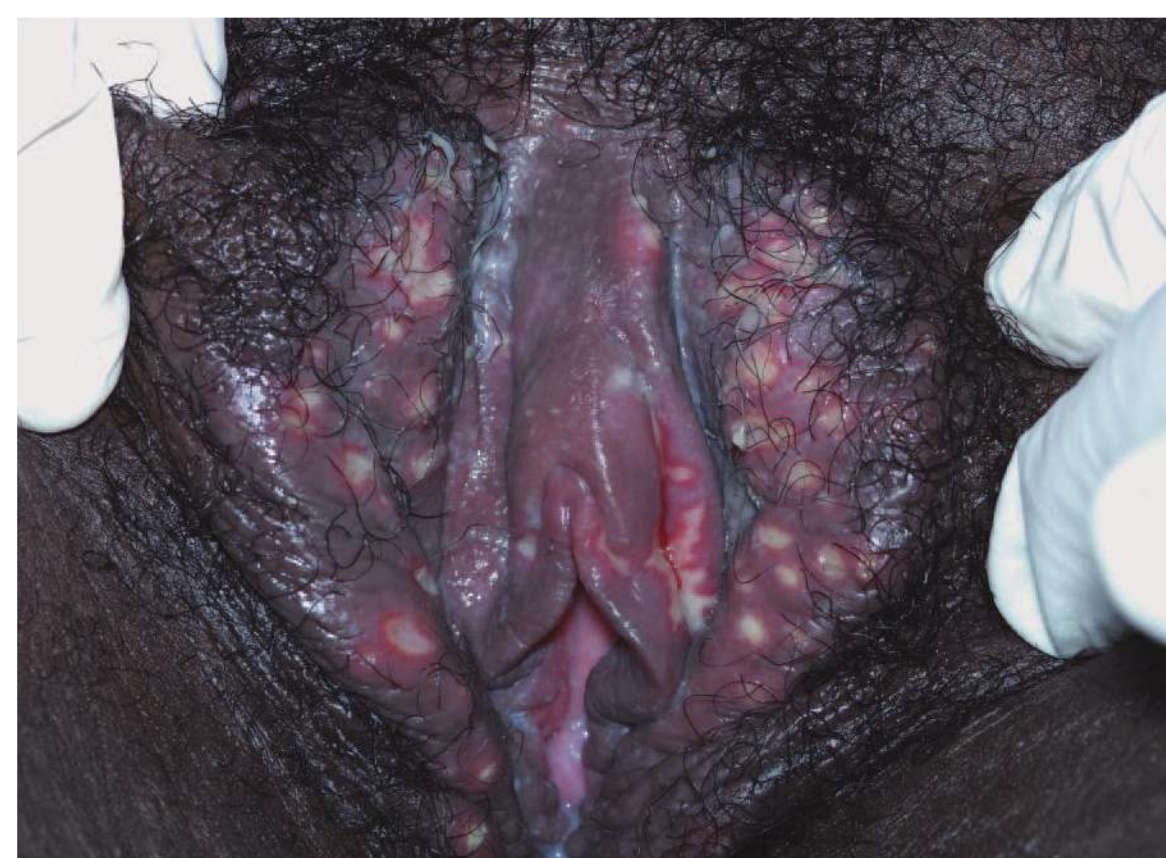


FIGURE 9.20 ■ Herpetic Ulcerations—Female. Multiple coalescing vesicles and ulcers causing a deep ulcer. (Photo contributor: Lawrence B. Stack, MD.)

For recurrent genital herpes, treatment must be started within 1 day of the onset of symptoms in order to be effective. Multiple antiviral treatment regimens are appropriate. Five-day oral courses include acyclovir 400 mg three times daily, acyclovir 800 mg twice daily, famciclovir 125 mg twice daily, or valacyclovir 1 g once daily. Shorter courses include acyclovir 800 mg three times daily for 2 days, famciclovir 1000 mg PO twice daily for 1 day, or valacyclovir 500 mg twice daily for 3 days.

Admit patients with disseminated herpes infections and other complications for treatment with intravenous antiviral medications.



FIGURE 9.21 ■ Primary Lesions—Male. Multiple genital vesicles of primary genital herpes. (Photo contributor: H. Hunter Handsfield, MD. From Handsfield HH (ed): *Atlas of Sexually Transmitted Diseases*, 3rd ed. New York: McGraw-Hill; 2011.)



FIGURE 9.22 ■ Primary Lesions—Male. Confluence of ulcerations on an erythematous base in a patient with primary herpes simplex type II. (Photo contributor: David Effron, MD.)

Pearls

1. Perinatal transmission of genital herpes is associated with high rates of infant morbidity and mortality. Infected women must be counseled to inform their obstetrician of their history of herpes when they become pregnant.
2. Genital herpes is the most common cause of ulcerating genital lesions in the developed world.
3. Topical antiviral agents are not effective against genital herpes.

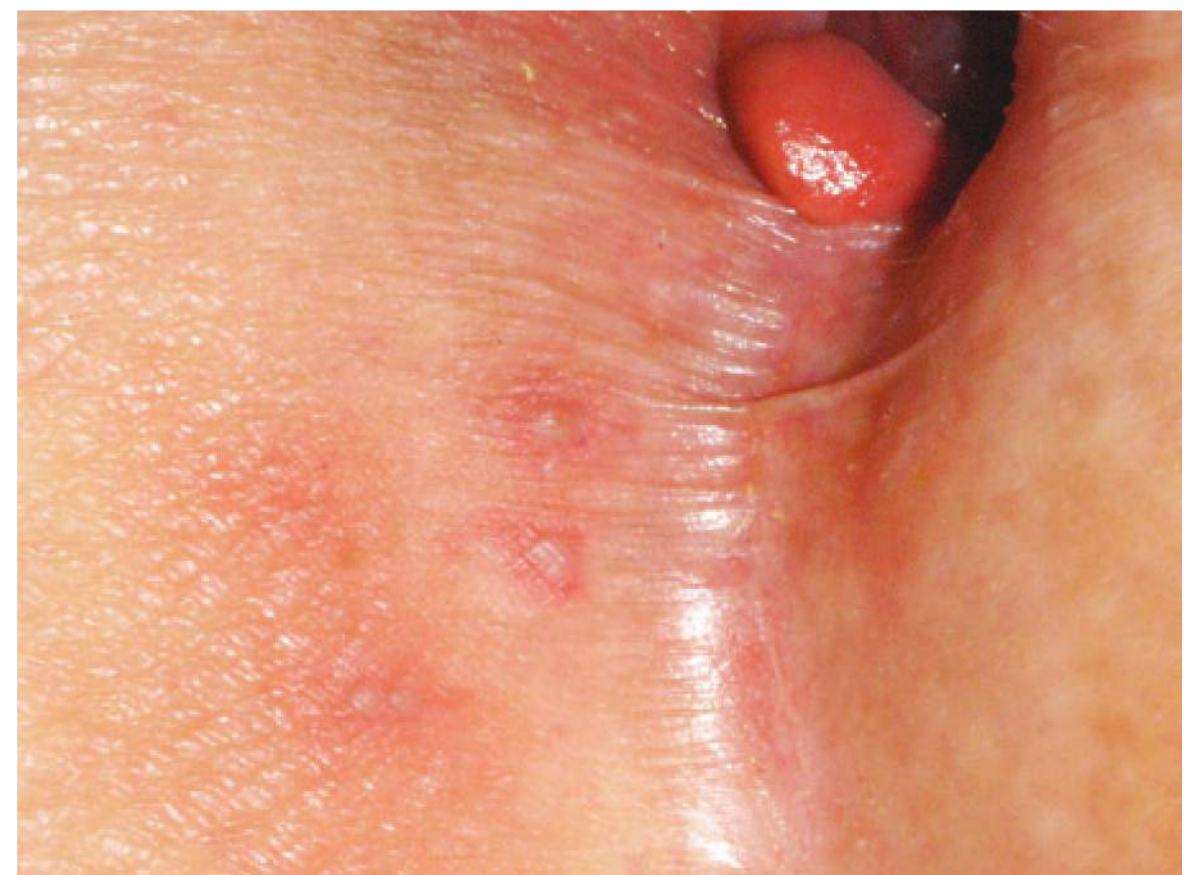


FIGURE 9.23 ■ Recurrent Lesions—Female. Few, small, minimally painful lesions of recurrent genital herpes. (Photo contributor: Hope Haefner, MD.)

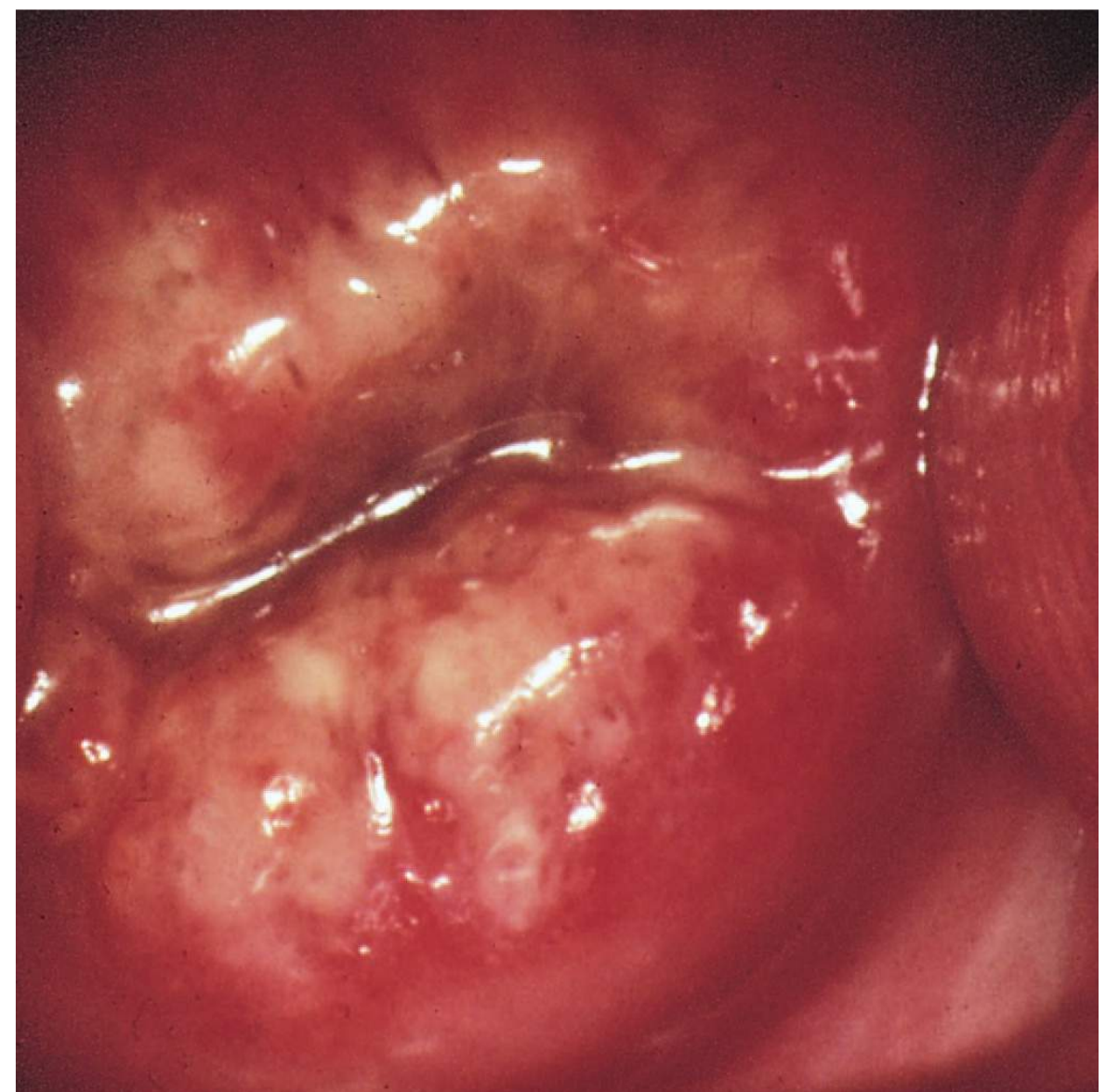


FIGURE 9.24 ■ Herpes Simplex Virus—Cervix. Erosive ulcerations of the cervix in a patient with genital herpes infection. This patient may be completely asymptomatic and may transmit the disease. (Reproduced with permission from Wisdom A. *A Colour Atlas of Sexually Transmitted Diseases*. London: Mosby-Wolfe Ltd; 1992. Copyright © Elsevier.)

Clinical Summary

Lymphogranuloma venereum (LGV) is caused by the L1, L2, or L3 serotypes of *C trachomatis* and is primarily a disease of lymphatic tissue. Initially, LGV causes a self-limited, painless genital ulceration that is rarely noticed by the patient. Patients typically present later with painful, firm femoral or inguinal adenopathy which is often but not always unilateral. Lymphadenopathy may occur both above and below the inguinal ligament, causing the “groove sign” suggestive of this diagnosis. The enlarged lymph nodes may spontaneously open into draining sinus tracts to the skin. Patients with rectal exposure may present with rectal pain, drainage, and tenesmus due to proctocolitis with possible development of fistulas or strictures.

Management and Disposition

Treat with doxycycline 100 mg orally twice daily for 21 days. Alternatives are erythromycin base 500 mg orally four times

daily for 21 days or azithromycin 1g orally once weekly for 3 weeks. Needle aspiration of large fluctuant lymph nodes may be necessary. Avoid incision and drainage as larger openings increase the risk of sinus tract formation. Diagnosis is primarily based on clinical suspicion and findings, but serologic testing may be used to confirm the diagnosis.

Pearls

1. Evaluate patients with LGV for concurrent sexually transmitted diseases and treat accordingly. Advise treatment of any sexual partners within the past 60 days.
2. The lymphadenopathy of LGV progresses over several weeks.
3. Treatment for LGV requires completion of a full 3 weeks of therapy for a cure.

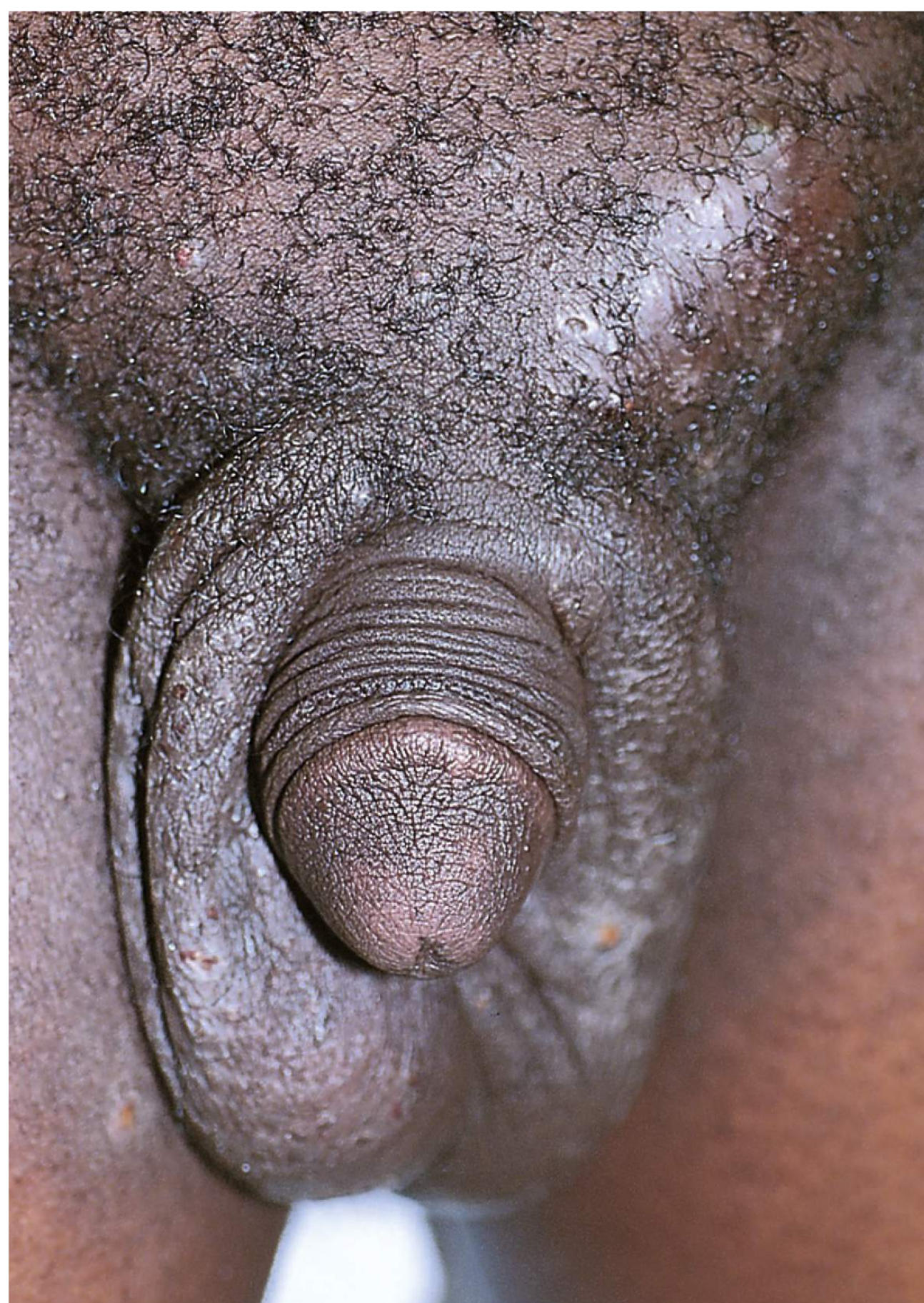


FIGURE 9.25 ■ Lymphogranuloma Venereum. Unilateral left lymphadenopathy in a patient with lymphogranuloma venereum. (Photo contributor: Lawrence B. Stack, MD.)

Clinical Summary

Chancroid is caused by infection with *Haemophilus ducreyi*. After an incubation period of 2 to 10 days, patients develop multiple painful genital ulcerations that are not indurated. The ulcers are often deep and undermined and may have a purulent base. Painful suppurative inguinal lymphadenopathy may develop. Infected lymph nodes can become large and may spontaneously rupture. Systemic symptoms are uncommon.

Management and Disposition

Treat with a single dose of intramuscular ceftriaxone 250 mg or oral azithromycin 1 g. Alternative treatments include ciprofloxacin 500 mg orally twice daily for 3 days or erythromycin base 500 mg orally four times daily for 7 days; however, increasing resistance to both of these agents limits their usefulness. Refer for follow-up examination in 7 days to evaluate response to treatment. In advanced cases, scarring can result despite successful treatment. Aspirate large, fluctuant

nodes to prevent rupture, but incision and drainage should be avoided to prevent development of chronically draining sinus tracts. Evaluate for other sexually transmitted infections and advise patients that all sexual partners should be notified of exposure to the disease and treated appropriately.

Pearls

1. Chancroid is a diagnosis of exclusion as culturing *H ducreyi* requires a special medium that is <80% sensitive and not readily available. Genital herpes and syphilis must be ruled out.
2. Incidence of chancroid is decreasing worldwide and it now occurs primarily in sporadic outbreaks among high-risk individuals.
3. The presence of chancroid increases the risk of HIV transmission.
4. The ulcerative lesions of chancroid are very tender and usually multiple.



FIGURE 9.26 ■ Chancroid Lesions. Multiple painful, deep ulcerations of chancroid. (Photo contributor: H. Hunter Handsfield, MD. From Handsfield HH (ed): *Atlas of Sexually Transmitted Diseases*, 3rd ed. New York: McGraw-Hill; 2011.)



FIGURE 9.27 ■ Chancroid Lesions and Inguinal Nodes. Chancroid lesions with an enlarged lymph node. On examination, this node is tender and fluctuant. (Photo contributor: H. Hunter Handsfield, MD. From Handsfield HH (ed): *Atlas of Sexually Transmitted Diseases*, 3rd ed. New York: McGraw-Hill; 2011.)

CONDYLOMA ACUMINATA (GENITAL WARTS)

Clinical Summary

Genital warts are caused by infection with human papilloma-virus (HPV): most commonly strains 6 or 11. Typical lesions are flesh-colored with a cauliflower-like appearance but may be flat, sessile, or pedunculated. These warts are usually asymptomatic, but may be seen or felt by patients or their sexual partners. They range in size from 1 to 4 mm to several centimeters.

Management and Disposition

In general, genital warts do not require emergent treatment and patients may be referred for outpatient follow-up. Topical caustic agents can be prescribed if treatment must be initiated during the emergency department visit. Options include podofilox applied twice daily for 3 days, followed by 4 days of no therapy for up to four cycles, imiquimod cream applied once daily at bedtime, three times weekly for up to 16 weeks, and sinecatechin ointment applied three times daily for up to 16 weeks. Imiquimod should be washed off within 10 hours of application, while sinecatechin should not be washed off. The patient should be advised to avoid sexual contact while these agents are in use. Safety during pregnancy has not been established for any of these agents.



FIGURE 9.29 ■ Genital Warts—Male. Typical appearance of condyloma acuminata of the glans penis. (Reproduced with permission from Morse SA, Holmes KK, Ballard RC, Moreland AA (eds). *Atlas of Sexually Transmitted Diseases and AIDS*. 4th ed. Saunders Elsevier; 2010. Copyright © 2010 Elsevier, Ltd.)



FIGURE 9.28 ■ Genital Warts—Female. Verrucous lesions of the posterior fourchette in a patient with condyloma acuminata. (Photo contributor: H. Hunter Handsfield, MD. From Handsfield HH (ed): *Atlas of Sexually Transmitted Diseases*, 3rd ed. New York: McGraw-Hill; 2011.)



FIGURE 9.30 ■ Genital Warts—Male. Cauliflower-like appearance of condyloma acuminata of the foreskin of this uncircumcised male. (Photo contributor: Lawrence B. Stack, MD.)

Advise patients that recurrence is common and multiple treatments may be needed to completely eradicate the condyloma. Refer for appropriate follow-up care and consideration of other therapies which include cryotherapy, electrocautery, and trichloroacetic acid. Laser therapy or surgery may be needed in cases of giant warts. Patients should be evaluated for other sexually transmitted infections. HPV infection is also associated with increased risk of cervical cancer. Refer women with genital warts for gynecological evaluation including Pap smear to evaluate for coexisting carcinoma in situ.

Pearls

1. Immunization of young women against HPV is decreasing its incidence in the United States.
2. Genital warts are considered a sexually transmitted condition. Their presence in a child should raise suspicion for child sexual abuse.
3. Large lesions should be biopsied to rule out cancer.
4. In cases where the diagnosis is not obvious, perform serologic testing (VDRL or RPR) for syphilis to rule out condyloma lata.



FIGURE 9.31 ■ Perianal Condyloma Acuminata. Multiple perianal pedunculated warts are seen in this patient. (Photo contributor: Larry B. Mellick, MD.)



FIGURE 9.33 ■ Genital Warts—Child. Condyloma in female child should raise suspicion for sexual abuse. (Photo contributor: Hope Haefner, MD.)



FIGURE 9.32 ■ Giant Warts—Female. Extensive condyloma acuminata in a female. (Photo contributor: Hope Haefner, MD.)



FIGURE 9.34 ■ Giant Warts—Male. Giant warts in a male patient with extensive condyloma acuminata. (Reproduced with permission from Wisdom A. A Colour Atlas of Sexually Transmitted Diseases. London: Mosby-Wolfe Ltd; 1992. Copyright © Elsevier)

Clinical Summary

Pediculosis can be caused by either the body louse or the crab louse. Body lice are not sexually transmitted and tend to cluster around the waist, shoulders, axillae, neck, and head. Eyelash infestations can also occur. Hypersensitivity reactions to louse saliva cause intense pruritus and patients may present with complaints of intense itchiness and excoriations. The lice are very small and may not be easily seen. The larval form of the louse, the nit, may be mistaken for dandruff in the hair. Unlike dandruff, however, the nits are extremely adherent to the hair shaft and cannot be brushed out of the hair. The adult lice and their eggs are often found in the seams of clothing.

Pubic infestation is caused by *Phthirus pubis*, the crab louse. Patients may present with intense pruritis in the pubic area; however, as many as half of patients with this infestation may be asymptomatic. Patients may notice the lice or may note tiny rust-colored spots on their underwear, which represent bleeding from the sites of louse bites. Nits may be found at the base of pubic hair and hatch in 5 to 10 days.

Management and Disposition

Treat pubic lice with topical permethrin 1% cream rinse or pyrethrins with piperonyl butoxide. Either agent should be

washed off after 10 minutes. Repeat treatment in 1 week to treat any nits that may have hatched. Alternative regimens include topical malathion 0.5% lotion washed off after 8 to 12 hours or oral ivermectin 250 µg/kg once and repeated in 2 weeks. Treat eyelash infestations with twice daily application of petroleum jelly or other occlusive ophthalmic ointment for 10 days. Mechanical removal of nits attached to hair may also be attempted.

Advise patients to wash all clothing or linens used in the preceding 24 hours. Also advise avoiding sexual contact until cured and examination of all sexual partners.

Pearls

1. Nits are easier to find on examination than are mature lice; the average number of lice in an infestation is only 10.
2. Patients with pediculosis pubis should be evaluated for other sexually transmitted infections.
3. Although an effective treatment, lindane is no longer recommended as first-line therapy of pubic lice due to concerns regarding toxicity.



FIGURE 9.35 ■ *Phthirus pubis*—On Pubic Hair. *Phthirus pubis*, or the crab louse, in the pubic hair (pediculosis pubis) of a patient complaining of itching. Note the nits attached to the hair. (Reproduced with permission from Morse SA, Holmes KK, Ballard RC, Moreland AA (eds). *Atlas of Sexually Transmitted Diseases and AIDS*. 4th ed. Saunders Elsevier; 2010. Copyright © 2010 Elsevier, Ltd.)

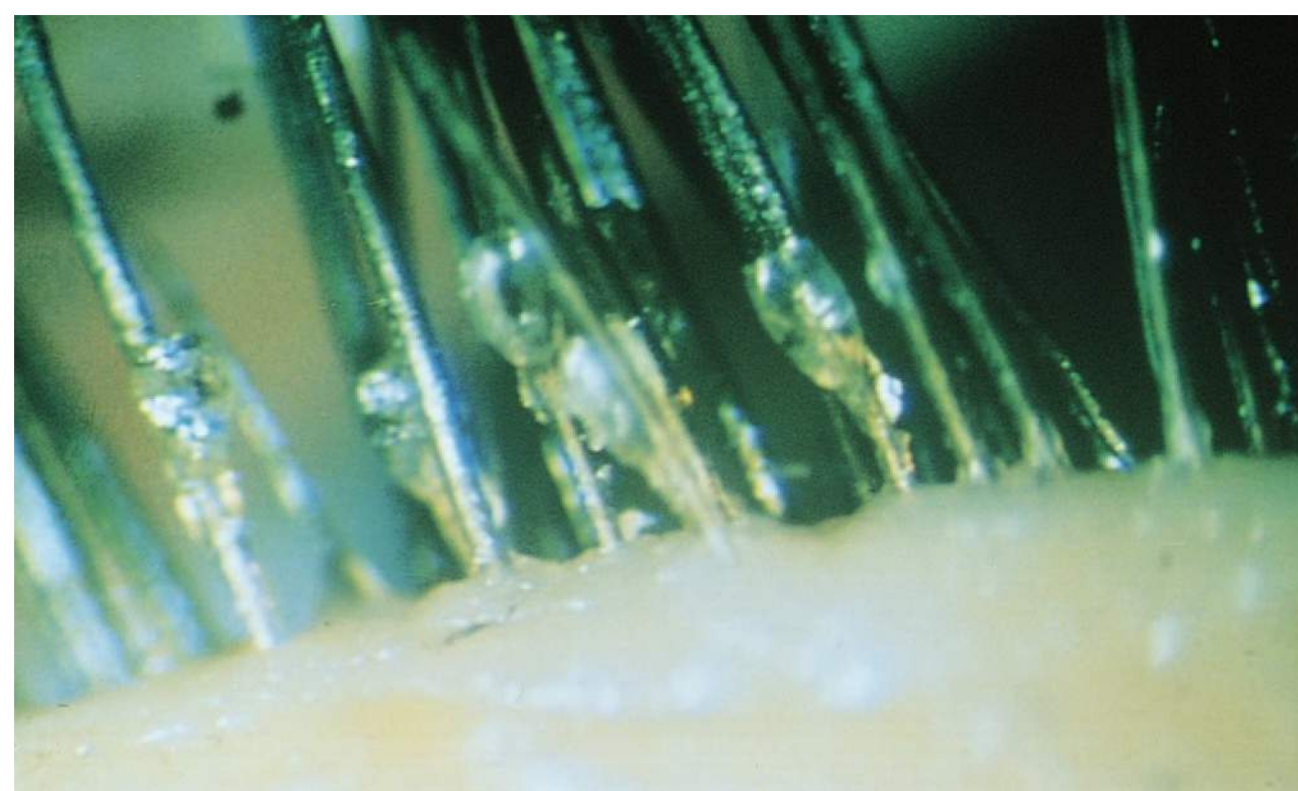


FIGURE 9.36 ■ *Phthirus pubis*—On Eyelashes. *Phthirus pubis* lice noted in the eyelashes. (Reproduced with permission from Spalton DJ, Hitchings RA, Hunter PA (eds). *Atlas of Clinical Ophthalmology*, 2nd ed. London: Mosby-Wolfe Ltd; 1994. Copyright © Elsevier.)

Clinical Summary

An anal fissure is a longitudinal tear of the skin of the anal canal and extends from the dentate line to the anal verge. It is the most common cause of painful rectal bleeding. Fissures are thought to be caused by the passage of hard or large stools with constipation, but may also be seen with diarrhea. Although seen in infants, this condition is found mostly in young and middle-aged adults (30-50 years old). Patients present with intense sharp, burning pain during and up to several hours after bowel movements. They may see bright red blood at the time or shortly after the passage of stool. Gentle examination with separation of the buttocks usually provides good visualization. Anal fissures are typically a few millimeters wide and most commonly occur in the posterior midline, where the skeletal muscle fibers encircling the anus are the weakest. An anal fissure that is off the midline should raise suspicion of a secondary cause, such as inflammatory bowel disease including ulcerative colitis, or Crohn disease, or sexually transmitted infection such as chlamydia, gonorrhea, herpes, and syphilis. Other atypical causes include tuberculosis, anal neoplasms, leukemia, and sickle cell disease.

Management and Disposition

Acute treatment of anal fissures consists of anal hygiene, bulk fiber diet supplements to soften stools, warm sitz baths, topical nitroglycerin or nifedipine gel, and topical anesthetics (lidocaine). Oral pain medication and muscle relaxants such as diazepam may be required for some certain patients. Most



FIGURE 9.37 ■ Anal Fissure. A typical anal fissure located in the posterior midline. (Photo contributor: Paul J. Kovalcik, MD.)

simple anal fissures resolve in 2 to 4 weeks, but refractory cases may require surgical repair.

Pearls

1. Pain and involuntary sphincter spasm may preclude routine digital or anoscopic examination and anesthesia may be required for adequate evaluation.
2. A proctoscopic examination should be done at some point to rule out secondary causes—particularly if location is not in the posterior midline.



FIGURE 9.38 ■ Anal Fissure. An anal fissure is seen at the superior midline in a patient with 2 weeks of constipation. (Photo contributor: Kevin J. Knoop, MD, MS.)



FIGURE 9.39 ■ Anal fissure. This adolescent patient complains of bloody, painful, hard stools and has an anal fissure in the midline toward the perineum. (Photo contributor: Lawrence B. Stack, MD.)

Clinical Summary

Anorectal abscesses include perianal and perirectal abscesses which are named according to the involved space: ischio-rectal, intersphincteric, or supralelevator. These are most commonly found in males aged 30 to 50 years old and are thought to be due to occlusion of the mucus-producing anal glands. The perianal abscess is most common. Symptoms include pain in the anal area worsened by bowel movements, straining, coughing, or palpation. Examination findings include a fairly superficial, fluctuant, and possibly erythematous mass found at the perianal region. Perirectal abscesses present as fluctuant masses that are palpable along the rectal wall. Patients may complain of pain, fever, and mucous or bloody discharge with bowel movement. Crohn disease is a common cause of anorectal abscess and should be considered. Other predisposing conditions may include chronic steroid use, diabetes mellitus, leukemia or other malignancy, radiation fibrosis, trauma, or infections such as Chlamydia, herpes, TB, LGV, or actinomyces.

Management and Disposition

Incise and drain perianal abscesses using a small radial or cruciate incision lateral to the external sphincter. For an uncomplicated abscess, this can be accomplished under local anesthesia. Clear the cavity of loculations and loosely pack with iodoform gauze. Gauze should be removed in 24 to 48 hours. All patients require outpatient follow-up. Antibiotic therapy is indicated in immunosuppressed patients and those with systemic symptoms consistent with sepsis. Consider computed tomography or magnetic resonance imaging for deep perirectal abscesses that are not palpable on rectal examination. Obtain surgical consultation for large or complicated abscesses or those requiring examination and treatment under anesthesia.

Pearls

1. Consider admission for debilitated, elderly, febrile, obese, or toxic-appearing patients.
2. All patients warrant follow-up referral due to the high incidence of fistulae formation associated with anorectal abscesses.

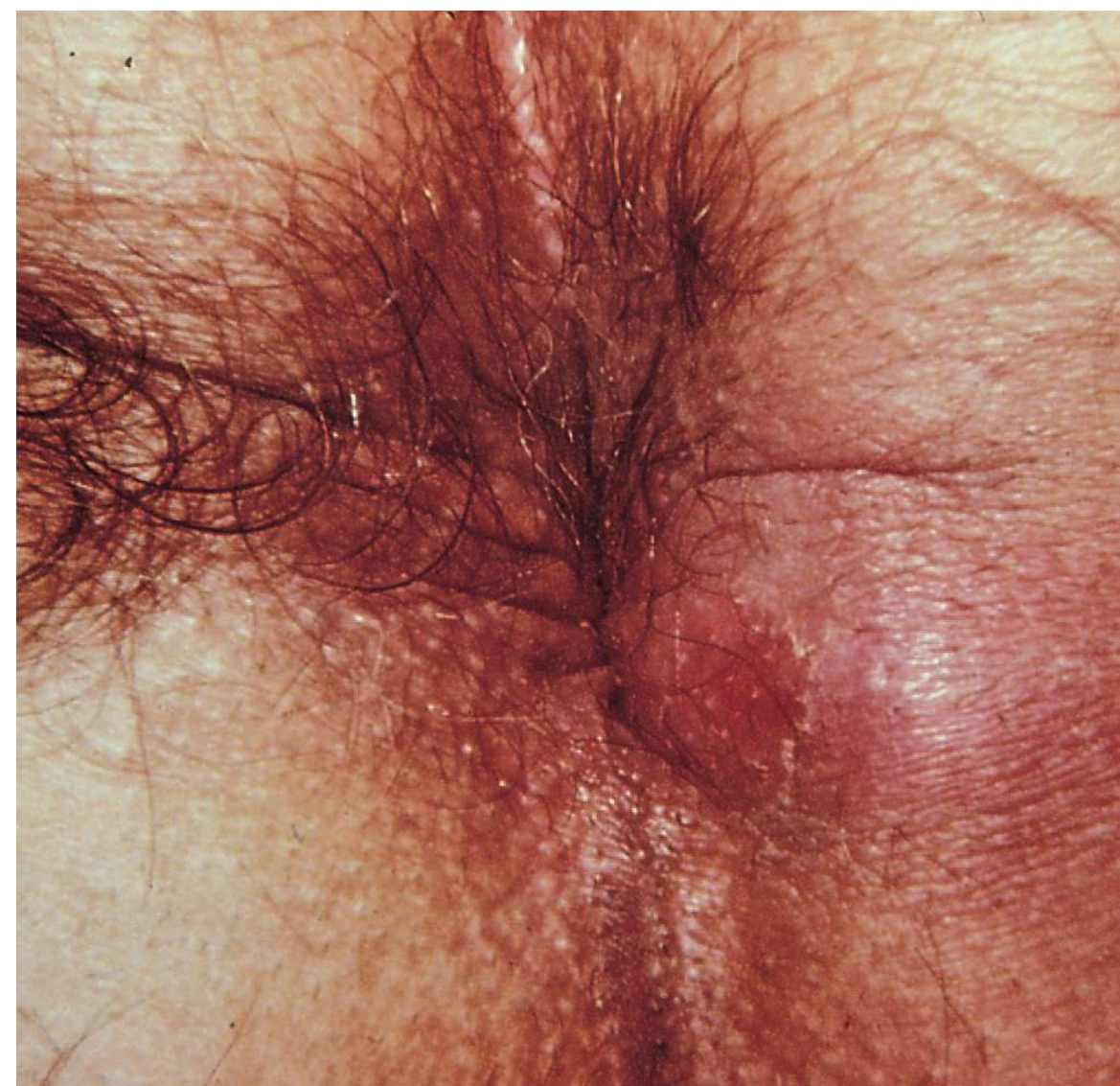


FIGURE 9.40 ■ Perianal Abscess. Swelling and erythema around the anus consistent with a perianal abscess. (Photo contributor: The American Society of Colon and Rectal Surgeons.)



FIGURE 9.41 ■ Perirectal Abscess—CT. Hypodense fluid collection surrounded by enhancing ring in the right perirectal tissue suggests an abscess. (Photo contributor: Brett Bechtel, MD.)



FIGURE 9.42 ■ Draining Perianal Abscess. A draining, left perianal abscess in a febrile infant. (Photo contributor: Lily Yu, MS4.)



FIGURE 9.43 ■ Perineal Abscess and Cellulitis. A large perineal abscess is seen extending from the perianal tissues to the right labia in a female infant. (Photo contributor: Lawrence B. Stack, MD.)



FIGURE 9.44 ■ Perirectal Abscess. This large, spontaneously draining perirectal abscess required further surgical debridement in the operating room. (Photo contributor: Lawrence B. Stack, MD.)

Clinical Summary

Hemorrhoids are classified according to their location and severity. External hemorrhoids result from the dilatation of the venules of the inferior hemorrhoidal plexus distal to the dentate line. They have a covering of skin, or anoderm. Internal hemorrhoids originate above the dentate line from the superior hemorrhoidal plexus and have a mucosal covering consistent with the surrounding internal anal canal. Internal hemorrhoids can be classified from first to fourth degree by their amount of prolapse and ease of reduction. Factors that contribute to hemorrhoid formation include constipation, family history, obesity, and increased intra-abdominal pressure from pregnancy or ascites. Hemorrhoids are commonly found at three anatomic locations: right anterior, right posterior, and left lateral positions (2-, 5-, and 9-o'clock positions). Internal hemorrhoids commonly present with painless, bright red rectal bleeding after defecation. This results from the passage of the fecal mass over the thin-walled venules, causing abrasions and bleeding. Patients may also complain of a sensation of anal fullness from prolapse of the vessel. Symptoms from external hemorrhoids can include swelling, burning, pruritus, and anal fullness. External hemorrhoids can also thrombose and result in exquisite pain in the acute phase. Other diagnoses to consider include infection, perianal or perirectal abscess, inflammatory bowel disease, malignancy,



FIGURE 9.45 ■ External Hemorrhoids. Multiple engorged, thrombosed (dark blue hue) external hemorrhoids are seen in this patient with anal pain and bleeding. (Photo contributor: Lawrence B. Stack, MD.)

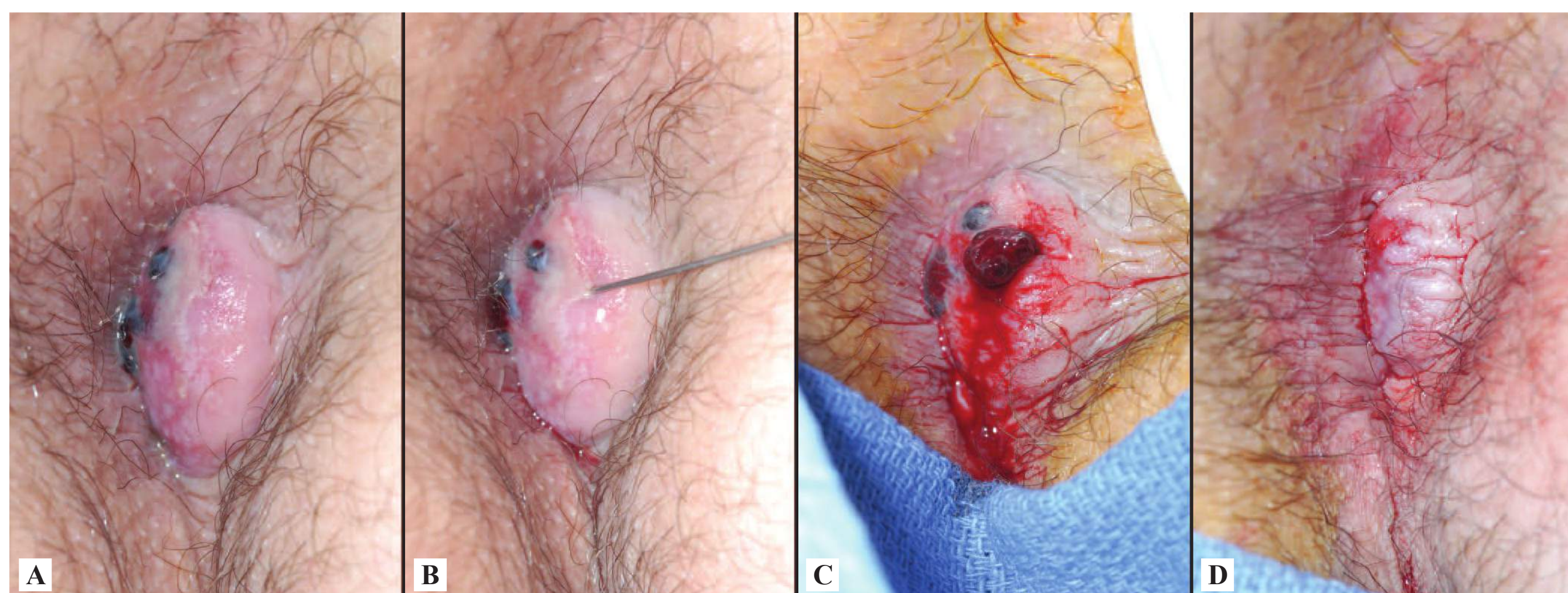


FIGURE 9.46 ■ Evacuation of Thrombosed Hemorrhoid. (A) Painful 1.5-cm thrombosed hemorrhoid. (B) Infiltration with marcadine till blanches. (C) Clot delivery after incision. (D) Collapsed hemorrhoid after clot evacuation. (Photo contributor: Lawrence B. Stack, MD.)

local trauma, herpes or other sexually transmitted infection, rectal polyp, or rectal prolapse.

Management and Disposition

In the rare case of severe, life-threatening bleeding, initiate fluid resuscitation and locate and clamp or ligate the bleeding vessel. Treatment for less severe cases includes increased dietary fiber, increased fluid intake, hot sitz baths, bed rest, and nonnarcotic pain medication. Advanced cases may require surgical consultation and treatment. Emergency department treatment of thrombosed external hemorrhoids includes an elliptical excision and extrusion of the clot under local anesthesia.

Pearls

1. Patients with other serious anorectal problems may complain of “hemorrhoids.” Therefore, careful examination and consideration of the differential diagnosis should be undertaken with each patient.
2. Having the patient strain during the examination may reveal bleeding or prolapse of an internal hemorrhoid that might otherwise go unnoticed. Anoscopy can also be helpful in examination.
3. Thrombosed hemorrhoids should not be excised in pregnant, immunocompromised, or pediatric patients.

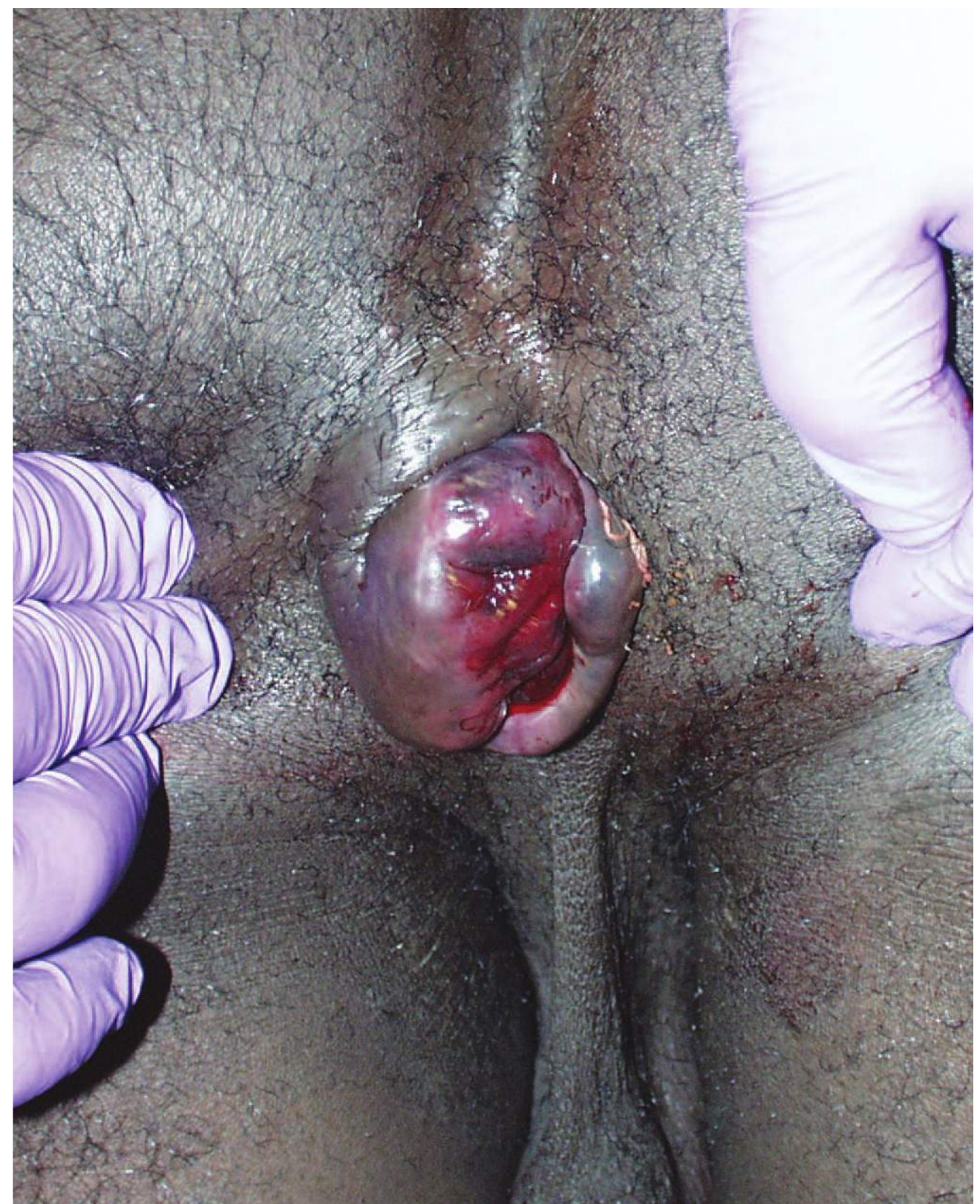


FIGURE 9.47 ■ Bleeding External Thrombosed Hemorrhoid. Engorged painful bleeding thrombosed hemorrhoids in a patient with chronic constipation. (Photo contributor: Department of Emergency Medicine, Naval Medical Center, Portsmouth, VA.)

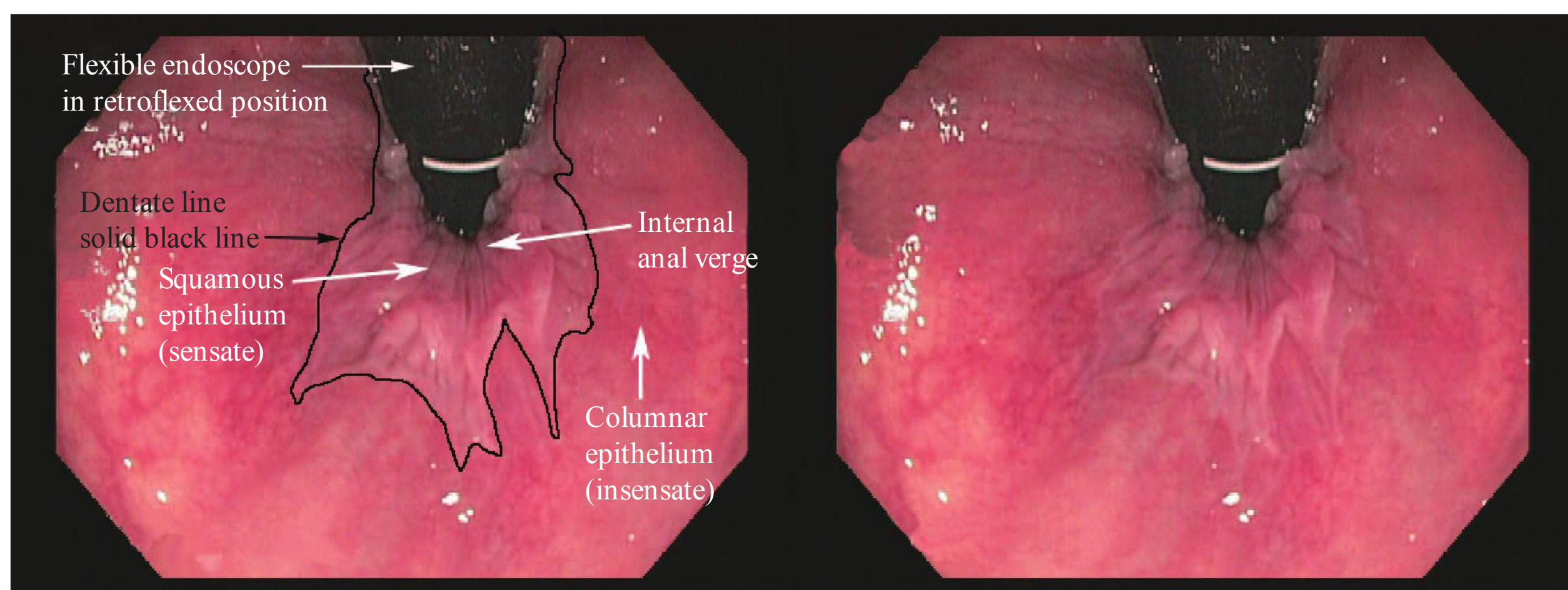


FIGURE 9.48 ■ Normal Distal Rectum Surface Anatomy. Columnar epithelium lines the colon (rectum), while squamous epithelium lines the anal canal and extends into the distal rectum. The columnar-squamous junction (interface) is termed the dentate line. The columnar epithelium is insensate, while the squamous epithelium is sensate. (Photo contributor: Philip E. Stack, MD.)

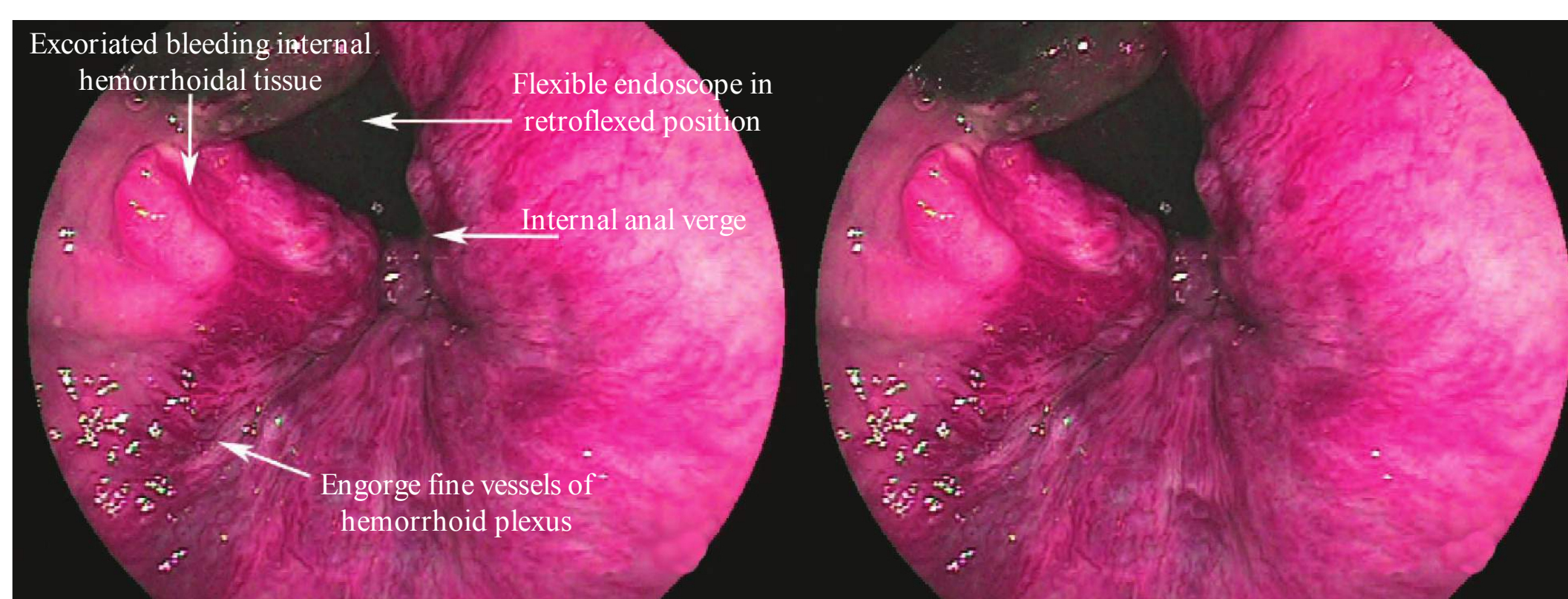


FIGURE 9.49 ■ Bleeding Internal Hemorrhoids. Middle-aged male with painless hematochezia. Internal hemorrhoidal bleeding is usually painless with a bleeding character that is described as “dripping or like a spray.” Moderate hematochezia outside of anticoagulation rarely results in any hemodynamic compromise. Treatment of predisposing underlying condition(s)—constipation, diarrhea, straining, poor dietary fiber intake, prolonged sitting and lifting, etc—is paramount, otherwise hemorrhoids are likely to recur or become chronic. (Photo contributor: Philip E. Stack, MD.)

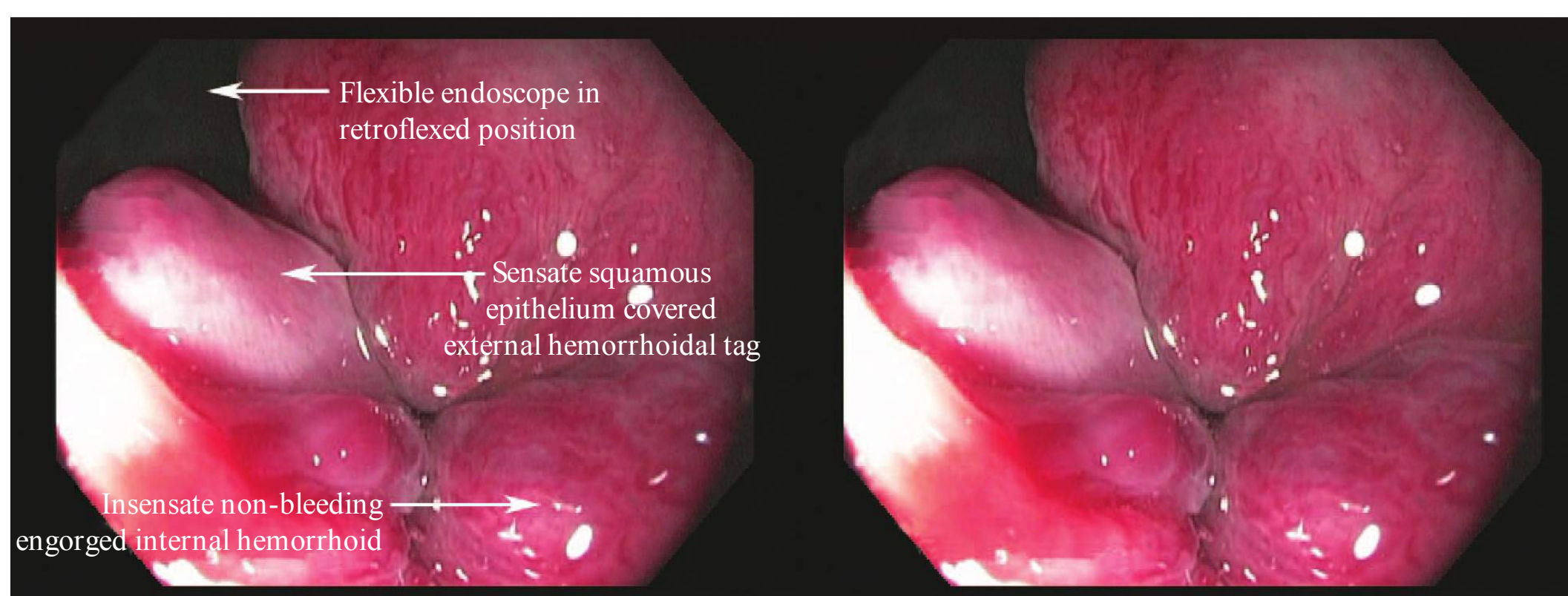


FIGURE 9.50 ■ External and Internal Hemorrhoids. Middle-aged woman with hemorrhoids and intermittent bloody stools and tender prolapsing small mass after bowel movements which she manually reduces. Acute engorgement of external hemorrhoids can result in residual redundant tissue that is prone to re-engorgement. This sequence can result in the formation of a “tag or tissue” of squamous epithelium which can be tender. This tissue, once formed, is not amenable to medical therapies and would require endoscopic or surgical removal if deemed necessary. (Photo contributor: Philip E. Stack, MD.)

Clinical Summary

Rectal prolapse (or procidentia) occurs when anorectal tissue slides through the anal orifice. Prolapse may be partial, involving only the mucosa (prolapse is <2 cm), or complete, involving a full-thickness extrusion of the rectal wall. Prolapse may result from laxity of the pelvic floor, weak anal sphincters, and/or lack of mesorectal fixation. Patients are often at extremes of age and complain of bleeding, mucous discharge, rectal pressure, or a mass. Associated fecal incontinence, constipation, and rectal ulceration are common as well. Family history, cystic fibrosis, chronic cough, dysentery, or parasitic infections are conditions associated with increased risk of procidentia. Differential diagnoses to consider include foreign body, tumor, perianal or perirectal abscess, rectal polyp, or engorged external hemorrhoids.

Management and Disposition

Gentle manual pressure will reduce most rectal prolapses. If manual reductions fail, surgical consultation and operative reduction are needed. Surgical treatment is also indicated with a complete prolapse. Refer all patients for anoscopic and sigmoidoscopic examination to evaluate for tumor, polyps, or inflammatory bowel disease. If rectal bleeding is a problem, full colonic evaluation should be completed.

Pearls

1. This is commonly seen in children with cystic fibrosis (22%); therefore, all children with rectal prolapse should have a sweat chloride test.

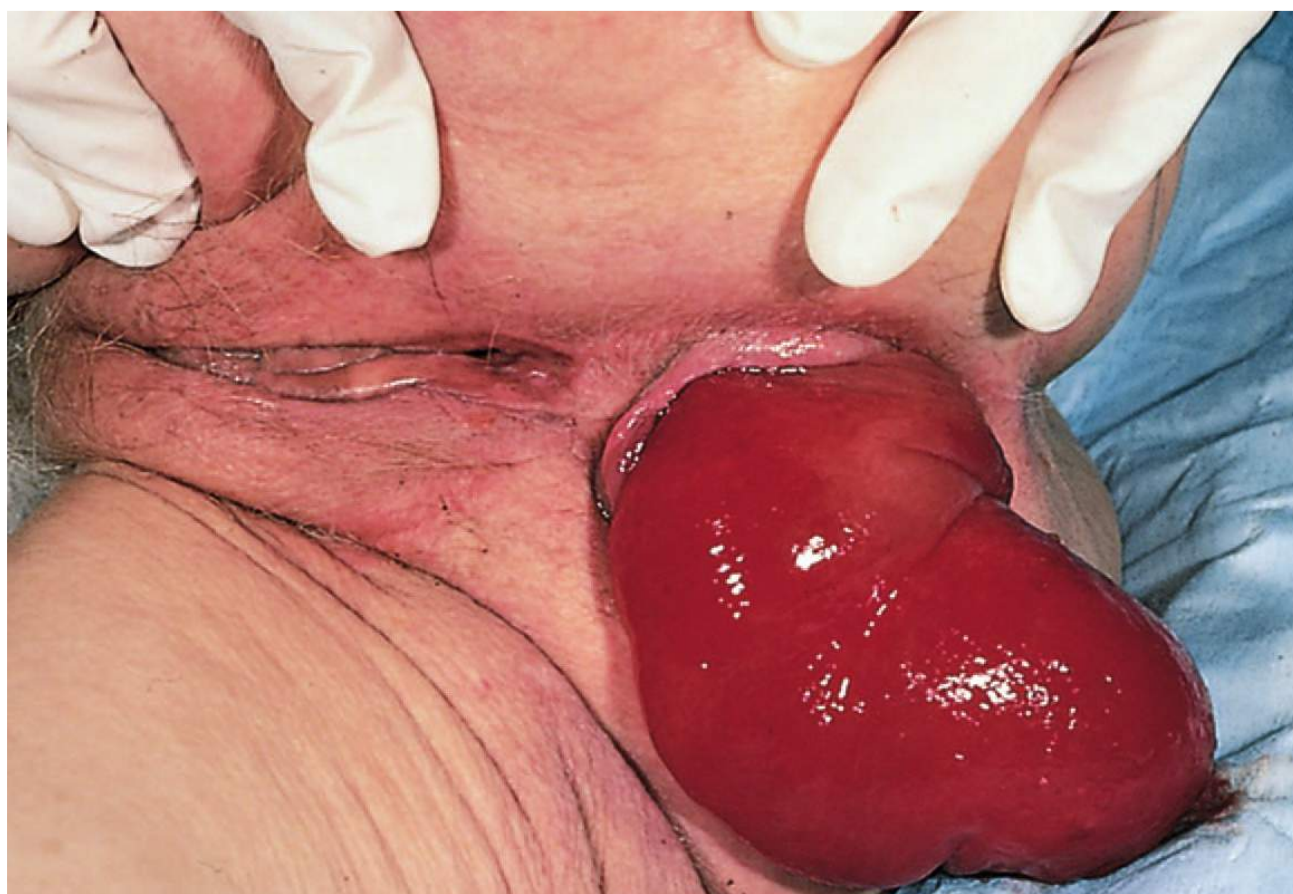


FIGURE 9.51 ■ Prolapsed Rectum. The rectum is completely prolapsed in this elderly patient. (Photo contributor: Alan B. Storrow, MD.)

2. Examination of rectal prolapse reveals concentric mucosal rings and a sulcus between the anal canal and the rectum. Prolapsed hemorrhoids are separated by radial grooves and the sulcus is absent.
3. To confirm the diagnosis, prolapse may be reproduced by having the patient bear down.



FIGURE 9.52 ■ Prolapsed Rectum. Recurrent rectal prolapse due to chronic constipation. (Photo contributor: Lawrence B. Stack, MD.)



FIGURE 9.53 ■ Prolapsed Rectum—Infant. Two-month-old with rectal prolapse after repeated episodes of straining at stool. Rectal biopsy performed because of abnormal barium enema. Biopsy results negative for Hirschsprung disease. (Photo contributor: Lawrence B. Stack, MD.)

Clinical Summary

Pilonidal abscesses are typically seen at or just superior to the gluteal fold and are more common in teenage and young adult males. Patients complain of localized pain, swelling, and drainage but usually do not have systemic symptoms. The abscesses are thought to occur when bacteria enter the hair follicle and cause edema that obstructs the opening to the skin surface. Eventually the follicle may rupture which allows spread into the subcutaneous fatty tissue and abscess formation. The acute abscess contains mixed organisms including *Staphylococcus aureus* and *Streptococcus* spp., but anaerobes and gram-negative organisms may also be present. Evidence of cellulitis in the sacrococcygeal area may result from a simple abscess or furuncle. Differential diagnosis includes anal fistulae, hidradenitis, inflammatory bowel disease, or tuberculosis.

Management and Disposition

An acutely fluctuant abscess requires incision and drainage under local anesthesia with removal of pus and debris. Instruct the patient on meticulous wound care and sitz baths. Antibiotic

therapy is indicated only in immunocompromised patients or those with significant surrounding cellulitis or systemic symptoms. Pilonidal abscesses have a 40% recurrence rate. Refer chronic or recurrent cases to a surgeon for consideration of definitive treatment by surgical excision and closure.

Pearls

1. Pilonidal abscesses almost always occur in the midline but can have sinus tracts extending off the midline.
2. Pilonidal disease is three times more common in men than in women.

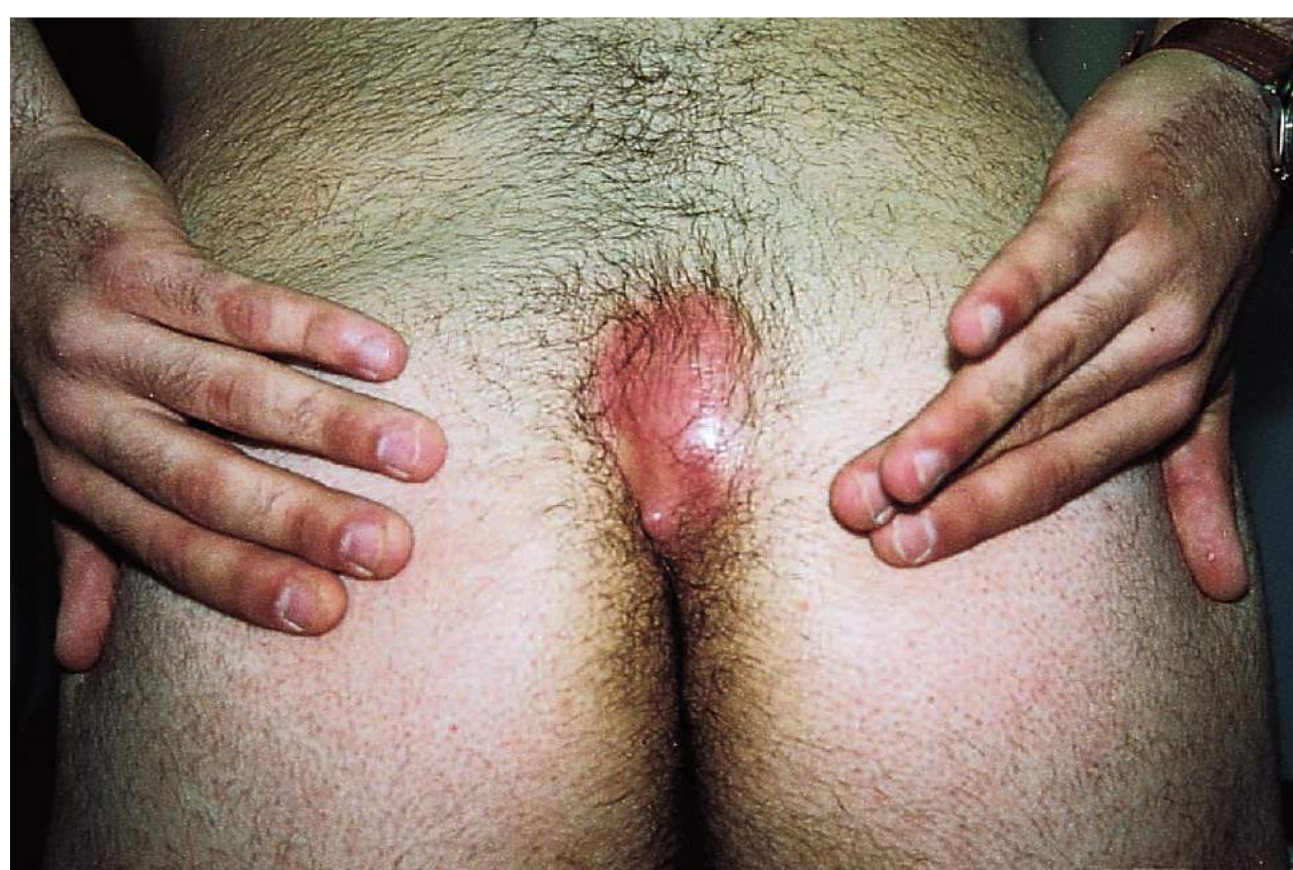


FIGURE 9.54 ■ Pilonidal Abscess. Redness, fluctuance, and tenderness in the gluteal cleft seen with a pilonidal abscess. (Photo contributor: Louis La Vopa, MD.)



FIGURE 9.55 ■ Pilonidal Abscess. Close-up of the cutaneous manifestations of a large pilonidal abscess. (Photo contributor: Lawrence B. Stack, MD.)

Clinical Summary

The diagnosis of rectal foreign body is usually made by history and confirmed by digital examination. Most often the foreign body is inserted, but it is possible to have an ingested foreign body trapped in the rectum. The most common and serious complication of a rectal foreign body is perforation of the rectum or distal colon. The patient must be carefully evaluated for evidence of perforation which may include physical examination findings consistent with an acute abdomen or x-rays demonstrating free air. Perforation above the peritoneal reflection is associated with free air in the abdominal cavity and peritoneal signs. Perforation below the peritoneal reflection often causes retroperitoneal injuries and presents with more insidious signs of pain and infection in the perianal or perineal region. It is important to determine the size, shape, and number of objects to assess the risk of perforation. In children, rectal foreign bodies usually present as rectal bleeding. Depending on the clinical scenario, the diagnoses of sexual assault or child abuse should be considered.

Management and Disposition

Removal can often take place in the emergency department with sedation of the patient and local anesthesia of the anal

sphincter. If the risk of perforation appears high or adequate relaxation and anesthesia cannot be obtained, then removal should occur under general anesthesia. After removal, x-ray studies and proctoscopic or sigmoidoscopic examination are recommended to rule out perforation or laceration.

Pearls

1. A Foley catheter or an endotracheal tube may be passed proximal to some foreign bodies. This may release the vacuum effect of the rectum or the balloon may be inflated to aid in removal.
2. A rectal foreign body in a child should raise the suspicion of abuse.



FIGURE 9.57 ■ Rectal Foreign Body. This victim of assault had a stick forced into his rectum. After removal, sigmoidoscopy revealed a retained small broken stick. (Photo contributor: R. Jason Thurman, MD.)



FIGURE 9.56 ■ Rectal Foreign Body. This foreign body (a 7-oz beer bottle) required removal in the operating room. (Photo contributor: Kevin J. Knoop, MD, MS.)



FIGURE 9.58 ■ Rectal Foreign Body. Ventriculo-peritoneal shunt tubing seen protruding from the anus after eroding through the transverse colon. (Photo contributor: Lawrence B. Stack, MD.)



FIGURE 9.59 ■ Ventriculo-Peritoneal Shunt Tubing in Colon. Ventriculo-peritoneal shunt tubing seen in the transverse colon and proceeding down the distal colon and exiting the anus. (Photo contributor: Lawrence B. Stack, MD.)

Clinical Summary

Gastrointestinal bleeding commonly presents with the alteration of stool color. Melena is defined as the passage of dark, pitchlike stools stained with blood pigments. Melena typically results from bleeding into the upper gastrointestinal tract proximal to the ligament of Treitz. Black stools have been seen with as little as 60 mL of blood in the upper gastrointestinal tract, but melena typically does not develop until 100 to 200 mL is present. Melena can be found in lower bleeds with decreased transit time, as with an obstruction distal to the site of bleeding. Melenic stools may occur from swallowed blood, as from epistaxis or other oropharyngeal bleeding. Dark or black stools can also be seen with the ingestion of bismuth salicylate, food coloring, and iron supplements.

Management and Disposition

Patients with true melena should be initially treated as unstable until orthostatic vital signs, stool guaiac, and a hematocrit have been obtained. One or more large-bore intravenous line should be placed and saline infused. Depending on the patient's stability, type-specific packed red blood cells or other blood products may be required. Stable patients who present with melena may be admitted to the ward. Patients with unstable vital signs, continued bleeding, severe anemia, or comorbid disease are admitted to the intensive care unit

with gastroenterology consultation. Obtain surgical consultation in patients with abdominal free air or those who remain unstable after receiving blood products.

Pearls

1. Melena is the most common presenting symptom of bleeding from peptic ulcer disease.
2. Melena represents approximately 200 mL of blood loss in the gastrointestinal tract.



FIGURE 9.61 ■ Melena. Guaiac-positive stool specimen in a patient with melena due to a duodenal ulcer. (Photo contributor: Lawrence B. Stack, MD.)



FIGURE 9.60 ■ Melena. The black tarry appearance of melena in a patient with a duodenal ulcer. (Photo contributor: Alan B. Storow, MD.)



FIGURE 9.62 ■ Melena and Maroon Stool. The maroon watery stool with more solid melena suggests a briskly bleeding upper gastrointestinal bleed. Esophagogastroduodenoscopy confirmed a bleeding gastric ulcer. (Photo contributor: Maria Ladino.)

