Anorectal Abscess

12

Zhaomin Xu and Jenny R. Speranza

Refer to Algorithm in Fig. 12.1

A. The majority of anorectal abscesses result from cryptoglandular infections. Anal glands empty into the anal crypts at the level of the dentate line. Obstruction of the ducts and glands lead to stasis, bacterial overgrowth, infection, and ultimately abscess formation. These abscesses may lead to a resultant fistula if there is epithelialization of the draining tract.

B. Approximately 10% of anorectal abscesses are thought to be associated with some predisposing factors such as Crohn's disease, trauma, chronic inflammation, immunodeficiency, sexually transmitted diseases, malignancy, or foreign bodies. Abscesses are categorized into four types dependent on their anatomic positions: perianal, ischiorectal, intersphincteric, and supralevator (Fig. 12.2). The most common types are perianal and ischiorectal. When an abscess spreads circumferentially through the intersphincteric, deep postanal space, or ischiorectal spaces bilaterally, a horseshoe abscess may result.

C. The most common presenting symptoms are constant, throbbing acute pain and local swelling. Perianal abscesses are typically superficial and may be accompanied by erythema and fluctuance overlying the abscess. Because ischiorectal abscesses arise more laterally in the ischiorectal space, symptoms may actually occur on the buttock and anal margin as opposed to at the anal verge. Patients with intersphincteric abscesses may not have any superficial symptoms because the abscess arises in the intersphincteric space. Similarly, Patients with supralevator abscess may also lack visible external signs, but complain of gluteal pain or pressure. If spontaneous drainage occurs, then there may be visible purulent drainage.

D. Any evidence of a systemic infection in the form of tachycardia, fevers, chills, and leukocytosis or leukopenia should prompt emergent drainage.

E. If possible, a digital rectal examination should be done, which may demonstrate tenderness or fullness along the rectal wall or mass. Careful observation may reveal an external opening suggestive of a fistula-in-ano. Features such as large skin tags or multiple fistula openings may suggest an underlying diagnosis of Crohn's disease.

Z. Xu
Department of Surgery, University of Rochester Medical Center, Rochester, NY, USA

J. R. Speranza (✉)
Division of Colorectal Surgery, Department of Surgery, University of Rochester Medical Center, Rochester, NY, USA
e-mail: jenny_speranza@urmc.rochester.edu

S. R. Steele et al. (eds.), *Clinical Decision Making in Colorectal Surgery*,
https://doi.org/10.1007/978-3-319-65942-8_12

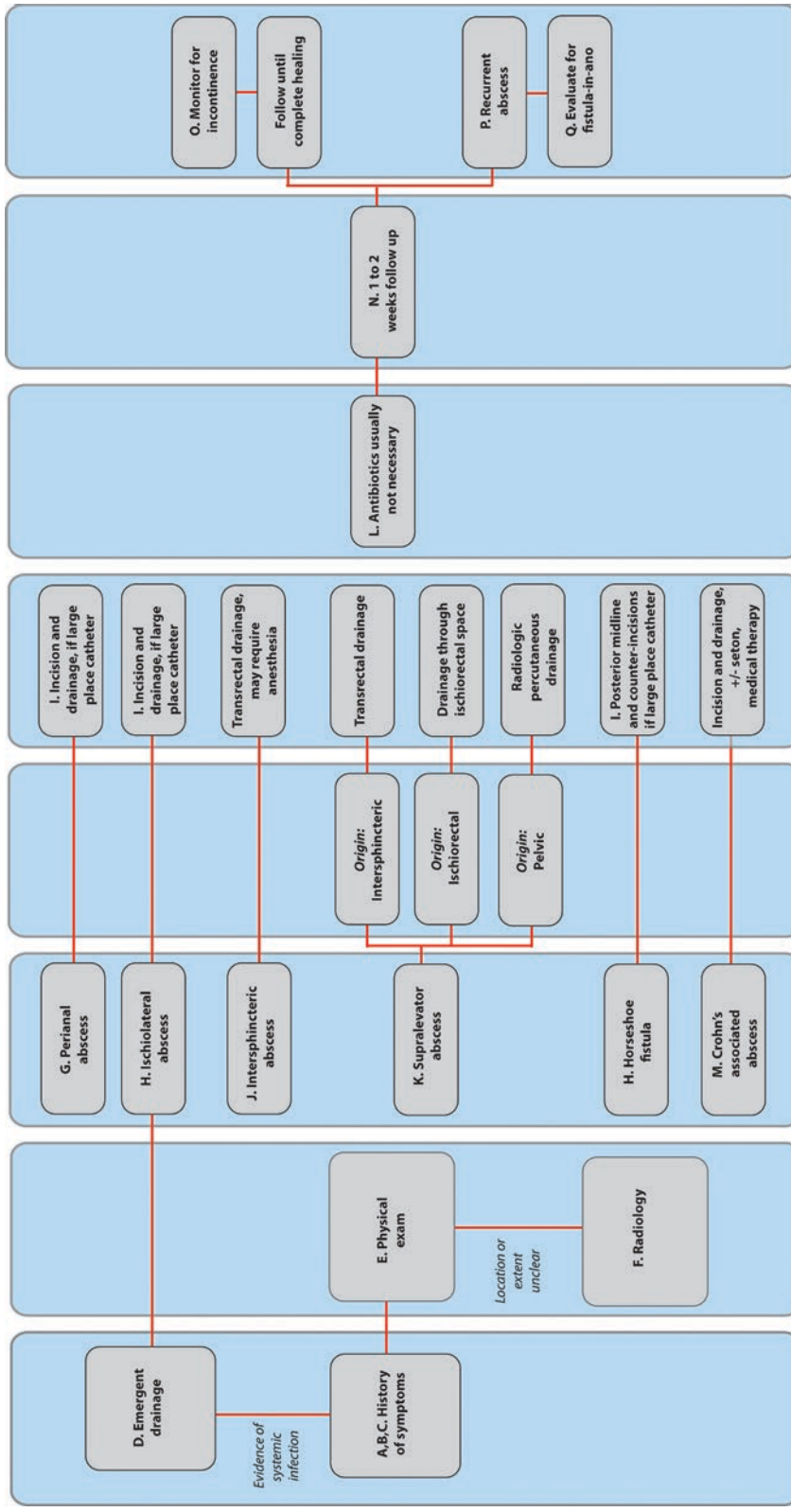

Fig. 12.1 Algorithm for anorectal abscess

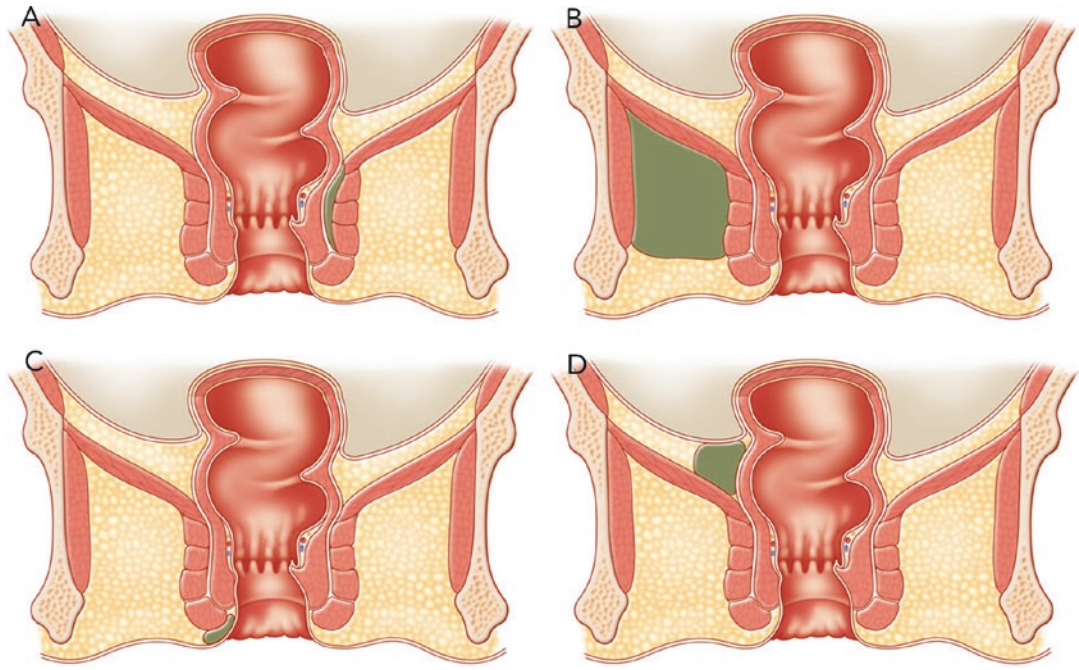

Fig. 12.2 Diagram of the locations of common anorectal abscesses. A: Intersphincteric abscess; B: Ischioanal abscess. C: Perianal abscess; D: Supralevator abscess. With permission from Nicole M. Saur and Dana R. Sands. Anorectal Abscess. Zutshi M, ed. Anorectal Disease. Springer Nature 2016

F. In general, a diagnosis of anorectal abscess is clinical and does not require further imaging. For complex abscesses, endoanal ultrasound, MRI, or CT scan may assist in delineating the extent of abscesses.
G. The over-riding principal behind the treatment of anorectal abscesses is timely incision and drainage. In the majority of cases, perianal abscesses can be effectively drained under local anesthesia in the office or at bed side. After finding the maximal point of tenderness, the area is infiltrated with lidocaine. A cruciate or elliptical incision is made across the overlying skin. Effort should be made to stay as close to the anus as possible yet carefully avoiding injury to the sphincter complex. This will minimize the length of any subsequent fistulas that may form. In order to decrease the risk of acute recurrence, the overlying skin can be excised or a drainage catheter can be placed within the cavity. An extra step to break up loculations mechanically can be taken to ensure adequate drainage. However, this should be done with care, especially if the abscess if very close to the anal sphincter. Generally, with an adequate incision, postoperative packing is not necessary unless needed for hemostasis.
H. Large ischiorectal abscesses and horseshoe abscess may require general anesthesia for adequate treatment. While small ischiorectal abscesses can be treated in a similar manner to perianal abscesses with the incision made as close to the anal verge as possible, large ischiorectal and horseshoe abscesses may require an incision over the anococcygeal ligament in the posterior midline to access the deep postanal space followed by counter-incisions over the lateral extensions of the abscess overlying the ischiorectal space. This is referred to as a Hanley procedure. Horseshoe abscesses have a high rate of recurrence ranging between 18% and 50% and may require multiple drainage procedures.

I. An alternative method for large perianal, ischiorectal and horseshoe abscesses is to leave a draining mushroom-tip catheter to allow for adequate drainage and the ability to irrigate periodically in the postoperative period. A small incision can be made overlying the abscess cavity. The cavity is then irrigated and debrided to break up loculations. The catheter is then inserted with a probe. Care should be taken to choose a catheter of an adequate size so that the catheter will not fall out spontaneously nor be difficult to remove in the office. This will allow irrigation postoperatively if there is significant cellulitis and sepsis.

J. Intersphincteric abscesses general require drainage under anesthesia due to pain. Drainage should be performed through the rectum by dividing the internal sphincter along the length of the abscess.

K. Supralevator abscesses can originate from different locations, and hence, treatment should be tailored to where the abscess originates from. A supralevator abscess that originated from an intersphincteric abscess should be treated transrectally as is done for an intersphincteric abscess. However, if treating a supralevator abscess that originated from an ischiorectal abscess, then drainage should be performed through the ischiorectal space. Finally, supralevator abscesses can originate from a pelvic source secondary to diverticulitis, gynecologic infection or Crohn's disease. In these cases, optimal drainage may be achieved through radiologically guided percutaneous drainage followed by treatment of the underlying cause.

L. The addition of antibiotics to routine incision and drainage of an uncomplicated anorectal abscess is generally unnecessary and has not been shown to reduce healing time or recurrence rates. Exceptions are patients that have prosthetic valves, previous bacterial endocarditis, congenital heart disease, heart transplant patients with valvular pathology, extensive soft tissue cellulitis, immunosuppression, diabetes mellitus, or systemic sepsis. Wound cultures are also generally not helpful, however, it may be considered in cases of multiple recurrences or non-healing wounds.

M. The treatment of abscesses in patients with Crohn's disease deserves special care. Perianal pathology occurs in 40–80% of Crohn's patients. Crohn's patients typically have a high rate of poor wound healing and risk of sphincter injury due to chronic inflammation leading to large amounts of local fibrosis. Management should be focused on alleviation of perianal sepsis and preservation of continence. Hence, surgical management of anorectal abscesses in these patients should center around prolonged drainage with the use of catheters or setons. Medical management has also been advocated in Crohn's patients using antibiotics such as metronidazole and ciprofloxacin to provide further symptomatic relief.

N. Postoperatively, patients should be instructed to take fiber, non-narcotic analgesia as needed, and perform sitz baths. Patients may be re-evaluated in the office as soon as 1–2 weeks depending on the complexity of the procedure and follow up should continue until complete healing has occurred.

O. Incontinence may occur after the incision and drainage of an anorectal abscess. This can result from sepsis and tissue necrosis secondary to the infection. Baseline continence should be documented prior to any surgical procedure. Iatrogenic damage to the sphincter complex can occur during the drainage procedure. Subsequent incontinence can also occur if there is damage to the puborectalis muscle during the drainage of a supralevator abscess.

P. Recurrence is more common in those with a history of abscesses. Recurrence typically occurs due to incomplete drainage, a missed abscess in an adjacent space, or an undiagnosed fistula. Other reasons for recurrence that should be entertained if the usual causes have been ruled out are hidradenitis suppurativa, Crohn's disease, immunosuppression, tuberculosis, trauma, and foreign bodies.

Q. Approximately 30–50% of patients with an anorectal abscess will develop a fistula-in-ano.

Suggested Reading

Abcarian H. Routine antibiotics for anorectal abscess: the answer is still no. Dis Colon Rectum. 2011;54(8):917–8.

Mardini HE, Schwartz DA. Treatment of perianal fistula and abscess: Crohn's and Non-Crohn's. Curr Treat Options Gastroenterol. 2007;10(3):211–20.

Rizzo JA, Naig AL, Johnson EK. Anorectal abscess and fistula-in-ano: evidence-based management. Surg Clin North Am. 2010;90(1):45–68.

Steele SR, Kumar R, Feingold DL, Rafferty JL, Buie WD. Practice parameters for the management of perianal abscess and fistula-in-Ano. Dis Colon Rectum. 2011;54(12):1465–74.

Vasilevsky CA. Anorectal abscess and fistula. In: Beck DE, Roberts PL, Saclarides TJ, Senagore AJ, Stamos MJ, Wexner SD, editors. The ASCRS textbook of colon and rectal surgery. 2nd ed. New York: Springer; 2011. p. 219–44.

Whiteford M. Perianal abscess/fistula disease. Clin Colon Rectal Surg. 2007;20(2):102–9.