PROCEDURE ARTICLE

The occasional anorectal abscess

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INTRODUCTION

Anorectal abscesses are a common infection that may present to the rural physician in the office or emergency room. The incidence of this condition has been estimated to be between 68,000 and 96,000 per year in the United States[1] for a rate of 20.8–29.3/100,000 person-years. It is more than twice as common in men as in women and occurs most often in adults between the ages of 20 and 60.[2-4] It also more common in people with diabetes, inflammatory bowel disease and immunosuppresion.[4]

ANATOMY

Anorectal abscesses arise when an anal gland's draining duct becomes obstructed, leading to stasis, bacterial proliferation and eventual abscess formation.[5] This causes constant throbbing pain, erythema and swelling.[2,6,7] Anorectal abscesses can be subdivided into four main categories.[8] The most common subtype, the perianal abscess, occurs when a pocket of pus tracks downwards towards the anal epithelium and presents with pain and swelling near the opening of the anus.[1,2,6] The second most common anorectal abscess is the ischiorectal abscess, which spreads laterally through the external anal sphincter into the ischiorectal fossa and appears as a swelling on the buttocks.[1,2,6] Less commonly, the pocket can grow between the internal and external sphincters and present as a severely painful swelling, palpable on digital rectal examination and known as an intersphincteric abscess.[1,2,6] Finally, an anorectal abscess may, rarely, extend superiorly and form a supralevator abscess that can present non-specifically with fever, chills, tenesmus or pelvic and rectal pain.[1,7,9] Patients suspected of having an intersphincteric or supralevator abscess should have their condition discussed with a general surgeon. The four types of anorectal abscesses are: supralevator, intersphincteric, perianal, ischiorectal [Figure 1].

When to image?

The diagnosis of anorectal abscess is primarily based on patient history and physical examination. The digital rectal examination should be included if the patient consents. Anoscopy may be helpful in making the diagnosis. Imaging is not routinely recommended for perianal or ischiorectal abscesses.[10,11] Anaesthesia or sedation may be necessary for examination limited by pain.[11,12]

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Imaging may be beneficial in the following cases:

- History of Crohn's disease[11,13,14]
- Suspected supralevator abscess[9,15,16]
- Suspected intersphincteric abscess[12]

If imaging is conducted, the most commonly used modalities are computed tomography and magnetic resonance imaging, however, they are often not available in the rural or remote environment.[11] Both endoanal and transperineal ultrasound are also acceptable modalities for visualising anorectal abscesses, but ultrasonographers with these skills can be difficult to find. [11] Point-of-care transperineal ultrasound has recently begun to be used in characterising anorectal abscesses and may be beneficial if the physician is familiar with this modality.[17]

When to refer?

Physicians in the office or emergency department may drain patients with perianal or ischiorectal abscesses, but more complex abscesses, such as intersphincteric and supralevator abscesses, should be discussed with surgeons for evaluation and possible management in the operating room.[1,12] Signs of more complex abscesses include no visible external manifestations despite the patient's report of severe pain, palpable extremely painful swelling present on digital rectal examination and the patient reporting rectal bleeding, tenesmus or severe rectal pain with urinary symptoms, including dysuria and retention.[18,19]

Red flags in perianal and ischiorectal abscesses that also necessitate discussion with general surgery:

- Horseshoe abscess: Horseshoe abscesses form when the obstructed gland is located midsagittally.[6] The anococcygeal body in this area prevents the abscess from growing inferiorly, so it tracks bilaterally into both ischiorectal fossae.[6] These abscesses require more complex management with drains, so abscesses which appear to track around the anus should be managed operatively[1]
- Crohn's disease: Crohn's disease-associated abscesses may lead to recurrent perianal disease.[6] Surgical consultation is, therefore, recommended for patients with a history of Crohn's disease presenting with anorectal abscess[14]

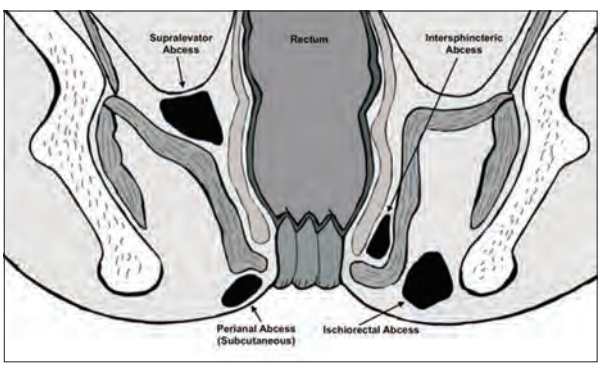


Figure 1: The anatomic locations of perianal, ischiorectal, intersphincteric and supralevator abscesses. [8]

EQUIPMENT [FIGURE 2]

- Gloves and drapes
- Eye protection
- 10% povidone-iodine or 4% chlorhexidine solution
- Lidocaine (1%–2%) or bupivacaine (0.5%)
- 3–10 mL syringe and needle
- Scalpel handle and #11 blade
- 30–60 mL syringe
- Sterile water or normal saline
- 4 × 4 inch gauze (lots of it)
- Culture swab (optional)
- Dressing and tape.

PROCEDURE

1. Place the patient in a position that allows for full visualisation of the area to be incised while maintaining adequate comfort[20]
2. Inspect the abscess for red flags for referral, including a high suspicion of supralevator, intersphincteric or horseshoe abscess or perianal Crohn's disease



Figure 2: Equipment needed to drain an anorectal abscess.

3. If a linear ultrasound probe is available and if trained in performing trans perianal ultrasonography, evaluate and characterise the abscess in terms of size, depth and presence of loculations[17]
4. Disinfect the surface of the abscess with povidone-iodine or chlorhexidine solution[20]
5. If using local anaesthesia, inject 1%–2% lidocaine or 0.5% bupivacaine in the skin around and over the abscess. [20] A regional block, procedural sedation and/or parenteral analgesia can be added if the physician is comfortable with these approaches and the patient is anxious, pain precludes adequate examination or drainage is expected to be lengthy or especially painful[11]
6. Incision and drainage:

a. Once anaesthesia has taken effect, make two curved incisions to remove an oval of skin overlying the abscess. [10] The incisions should be as close to the anal verge (the transition from non-keratinised epithelium to keratinised epithelium with hair) as possible in order to shorten the length of any subsequent fistula[11]
b. Express the abscess to remove as much pus as possible. It may be helpful to have the patient assist in this process in order to manage pain. It may also be necessary to break up loculations with forceps in some cases, but care must be taken to prevent injury to the sphincter or the pudendal nerve[6]
c. Take cultures if desired (see step 7 below)
d. Irrigate the abscess cavity with syringe and sterile water or saline (optional)
e. Cover the wound with sterile bandages. Packing is unnecessary and may increase pain or delay healing.[11,21-23]

7. It may be helpful to culture the pus, though this is debated. Culture is explicitly recommended for recurrent infection and non-healing wounds.[11] Routine culture without these indications may identify methicillin-resistant *Staphylococcus aureus* (MRSA). Alternatively, in areas with high levels of community-acquired MRSA, if a patient also has cellulitis or other indications for antibiotic coverage, choosing an antibiotic that targets MRSA and forgoing the culture may be the best choice
8. The prescription of antibiotics for perineal abscess is controversial. Based on several studies showing a lack of change in patient outcomes with antibiotics, the American Society of Colon and Rectal Surgeons recommends avoiding antibiotics in the absence of indications such as cellulitis, systemic infection, immunosuppression, prosthetic heart valves, congenital heart disease, heart disease and a history of endocarditis.[11] By contrast, a recent meta-analysis showed that antibiotics significantly reduced the risk of subsequent fistula formation, but that more investigation was needed to clarify the appropriate type, dose and duration of antibiotic therapy.[24] It, therefore, currently remains up to the physician's judgement whether, and which, antibiotics to use.

POST-PROCEDURE MANAGEMENT

Patients should be advised to use warm soaks or sitz baths twice daily and to rinse the anal area regularly with tap water.[10,22,25] Physicians or nursing staff should instruct patients on how to reapply dressings after each bath. To reduce discomfort, fibre laxatives and oral analgesics should also be recommended.[25] Finally, patients should be advised to seek care if erythema worsens or fever or chills develop. Patients should return for follow-up in 2–4 days.[25]

COMPLICATIONS

Potential complication during incision and drainage include bleeding, infection and damage to surrounding structures, namely the sphincter or the pudendal nerve.[6] Inadequate drainage of the abscess may allow it to redevelop, requiring repeat incision and drainage.[26] In addition, there is approximately a 16% risk of fistula which may present as a new or persistent external opening or recurrent pain.[27] This risk can be minimised by ensuring that the abscess is adequately drained.[11] If the abscess is not promptly treated, severe sequalae can follow, including perianal sepsis and necrotising soft-tissue infection around the anus.[26] In addition, an anorectal abscess may occasionally be the first symptom of systemic conditions such as acute leukaemia or Crohn's disease, so additional workup may be indicated if other symptoms are present. [28,29]

CONCLUSION

Simple perianal and ischiorectal abscesses can be drained in the office or emergency room setting.

Draining perineal abscesses brings patients great relief and physicians a sense of satisfaction. Before undertaking this procedure, however, it is important to ensure that the abscess is amenable to drainage and has no red flags such as concurrent Crohn's disease or horseshoe abscess, which may necessitate surgical referral.

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