ANORECTAL DISORDERS
Graham Taylor, MD
Week 1

Educational Objectives:

1. Review how to correctly perform and interpret the digital rectal exam
2. Diagnose and manage three benign anorectal disorders commonly seen in primary care: hemorrhoids, anal fissures, and pruritis ani
3. Identify patient or disease characteristics that may warrant referral to a gastroenterologist and/or surgeon

CASE ONE:

At the end of his annual wellness visit, a 55-year-old gentleman mentions a new concern of a rectal lump and associated discomfort. Over the past month, he has noticed an increasing protrusion on the right side of his rectum, particularly with defecation. This area is frequently irritated when he uses toilet tissue, and it throbs when he sits for prolonged periods at his job delivering auto parts. Recently, he switched to using moistened bathroom wipes with mild improvement in discomfort. He denies bleeding, including blood on the toilet tissue.

Questions:

1. What potential diagnoses should you consider at this point? What additional history might you collect to refine this differential?

The differential diagnosis for this patient’s concern is broad and includes both disturbances of normal anatomic structures, and neoplasia. One should consider: rectal prolapse, hemorrhoids, perianal abscess, fistula, inflammatory lesions as might be seen in IBD, condyloma, polyps, malignancy, or even a foreign body.

A thorough GI history and targeted review of symptoms would be helpful in organizing our differential diagnosis. Additionally, reviewing his family history may help us estimate his pre-test probability of inflammatory bowel diseases or malignancy.

- Are there “red flag” symptoms such as: fever, night sweats, unintentional weight loss, associated nausea/vomiting/abdominal pain, melena, history of iron deficiency anemia, or family history of inflammatory bowel disease or colorectal cancer?
- Is there drainage or discharge from the affected area?
- Is there a history of immunocompromise?
- Is there a history of sexual activity involving anal manipulation or penetration?
- Has the patient received age-appropriate colon cancer screening?
• What are the patient’s bowel habits with respect to: stool frequency, stool consistency, presence/absence of straining, presence/absence of incontinence, cleaning practices, and total time spent on the commode?

CASE ONE CONTINUED:

The patient denies additional gastrointestinal symptoms, worrisome systemic symptoms, and has no family history of bowel diseases. He had a normal colonoscopy at age 50 and was given a 10-year return interval. There is no drainage from the area, no history of anal manipulation, nor of immunocompromise. He typically produces one firm stool every other day and at times needs to strain. He feels that it is more difficult to adequately clean himself since the protrusion began, and so he has been spending longer on the toilet (up to 15 minutes) and wiping more vigorously.

2. **How would you perform the digital rectal exam?**

   To prepare for the digital rectal exam, gather a reliable light source, medical gloves, lubricating jelly, a cotton swab, and materials for fecal occult blood testing. After reviewing the procedure with the patient and answering any questions, ask the patient to lie in the left lateral decubitus position with hips flexed to 90 degrees. Using a gloved hand, gently expose and inspect the anus and perineum, noting any visible abnormalities. Anal fissures often present as linear ulcers extending radially from the rectum and are usually quite tender to palpation. External hemorrhoids may appear variably as blue-purple vascular protrusions or flaccid redundant peri-anal tissue depending on their degree of engorgement. If the external hemorrhoid is thrombosed, it will likely be firm and cause acute pain on palpation.

   Assess the anocutaneous reflex by swiping the cotton swab across the perianal skin, towards the anus, in each of the four quadrants. The expected response is contraction of the perianal skin and external sphincter; deficits suggest neurological injury that may be either central or peripheral in origin. If deficits are present, the examiner should take care to ask about a history of back pain, local trauma or surgery, and the presence of other symptoms of cauda equina syndrome.

   Next, perform the internal exam. After obtaining consent from the patient, gently insert a lubricated, gloved finger. Note any anatomic abnormalities, the resting rectal tone, the presence of tenderness, and the characteristics of any stool present in the rectal vault. The examiner should rotate her finger to allow for assessment of the full circumference of the rectum. A low-grade internal hemorrhoid may be difficult to palpate on exam, whereas a high-grade hemorrhoid may present as a somewhat mobile or reducible mass arising from the rectal wall. Assess contraction of the anal sphincter by asking the patient to “squeeze” the finger. Then, ask the patient to “bear down” as if to defecate - the anal sphincter should relax. Failure of the sphincter to relax, or the presence of paradoxical contraction, may
suggest a neurological injury as above, or a functional motility disorder like dyssynergic defecation.

Withdraw the finger, noting the appearance of any stool or blood on the glove. If applicable, perform the occult blood test. Provide the patient with materials to clean himself, and briefly leave the exam room to allow the patient to clean and dress. Take care to explain your findings to the patient and how they may affect the plan of care. Note that in painful conditions such as an anal fissure or a thrombosed external hemorrhoid, patients may not tolerate a digital exam. Lidocaine jelly may be used to reduce discomfort and allow a more complete assessment.

CASE ONE CONTINUED:

Visual exam of the anus reveals a smooth 1.5 cm vascular bulge in the right posterolateral position, adjacent, but external, to the anal verge. The internal exam, rectal tone, and anocutaneous reflex are all normal.

3. What are hemorrhoids and how are they classified? How may the location of the hemorrhoid affect patient presentation?
Hemorrhoids are the most common anorectal disorder encountered in primary care. They develop from normal vascular cushions that are thought to contribute to anal continence and sensing the need to defecate. In the setting of local venous congestion (from constipation, straining, heavy lifting, cirrhosis, pregnancy, etc.) these vascular cushions may dilate and become symptomatic.

A key anatomic landmark in classifying hemorrhoids is the dentate line. The dentate line is located approximately 3 cm proximal to the anal verge and represents the interface of endodermal and ectodermal tissue. External hemorrhoids, which arise distal to the dentate line, are somatically innervated and are therefore highly sensate. They often cause local discomfort or pruritus; scant bright red bleeding (particularly on the toilet tissue) and local protrusion are also common.

If thrombosed, external hemorrhoids may cause severe, acute pain. If performed within approximately 72 hours of symptom onset, thrombectomy is the treatment of choice as it accelerates symptom resolution. The details of this procedure are beyond the scope of this chapter.

Internal hemorrhoids, in contrast, arise proximal to the dentate line. They receive autonomic innervation and are therefore relatively insensate. Rather than pain, they instead typically cause painless rectal bleeding or protrusion if prolapsed. They are graded based on the degree to which they prolapse past the anal verge. Grade 1 = no prolapse (only detectable on internal exam); Grade 2 = prolapse but spontaneously reduce; Grade 3 =
prolapse but able to be manually reduced; Grade 4 = unable to be reduced. Patients with Grade 3 or 4 internal hemorrhoids should be referred to a general or colorectal surgeon.

4. **How would you recommend this patient manage his hemorrhoids? If his symptoms were to persist, for how long would you continue conservative treatment before recommending a surgical referral?**

Behavioral treatment for all types of hemorrhoids includes a high fiber diet; fiber supplementation; increased water intake; avoidance of constipation, straining, and excessive cleaning; and minimizing the time spent on the commode. Symptomatic treatment for pain or irritation may also include Sitz baths*, and a variety of topical preparations including witch hazel, vasoconstrictors (e.g., phenylephrine), and corticosteroids (e.g., hydrocortisone). These topical therapies do not have an extensive evidence base but remain widely used. Note that corticosteroid preparations should be used for no longer than five to seven days due to the risk of tissue atrophy or pigment changes.

Generally speaking, if conservative treatment is not sufficiently effective after two to three months, the patient may be referred to a general or colorectal surgeon for procedural treatment. In rare instances, such as hemodynamically significant bleeding or refractory anemia attributable to hemorrhoids, a more urgent referral is needed.

There are many procedures that can be performed on an outpatient basis to treat persistently symptomatic hemorrhoids, including rubber band ligation, sclerotherapy, infrared coagulation, or hemorrhoidopexy. The relative indications and risks for these procedures is beyond the scope of this chapter, and these treatments are best guided by a general or colorectal surgeon.

* Sitz baths are simply warm water soaks of the perineum and are recommended in the treatment of many anorectal conditions, or as part of post-operative or post-partum care. Ten to 15-minute sessions two to three times daily are generally recommended. Warm water has been shown to relax the internal anal sphincter, however robust data regarding the effect of Sitz baths on patient outcomes is lacking.

A variety of Sitz bath kits consisting of a plastic basin and tubing are available over-the-counter and can be purchased for as little as $10-20 (based on review of Amazon.com product listings, reviewed 08/2019). However, the same effect can be obtained by immersing the perineum in a bathtub filled with a few inches of warm water. Not only would the latter reduce patient cost, but also would eliminate the subsequent disposal of what is generally a single-user plastic item.

Many over-the-counter preparations include Epsom salts or similar solutes, but there are not data to suggest that using a salt solution is more effective than water alone.
5. **In patients with rectal bleeding, suspected due to hemorrhoids, what, if any, additional evaluation is needed?**

Several professional societies have issued guidelines addressing which patients with hemorrhoid-pattern bleeding should have an endoscopic evaluation to exclude other causes of bleeding. There is not a clear consensus across these guidelines.

American College of Gastroenterology guidelines recommend that all patients with hemorrhoid-pattern bleeding undergo, at minimum, flexible sigmoidoscopy to exclude other causes of bleeding. If the patient is above the age of 50, has a suggestive family history, or if other concerning factors are present, colonoscopy is recommended.

Clinical practice guidelines from the American Society of Colon and Rectal Surgeons are less directive about the recommendation for additional testing. “Obtaining a thorough personal and family history and a physical examination, which may include proctoscopy and/or flexible sigmoidoscopy, will identify high-risk patients requiring more extensive evaluation,” typically in the form of a colonoscopy.

At the same time, hemorrhoidal disease is the most common cause of hematochezia, and in a real-world primary care setting, it is likely that many clinicians would not routinely recommend endoscopic testing for patients with low-risk clinical features.

---

**CASE TWO:**

A 33-year-old woman with history of opioid use disorder and recent incarceration walks into your clinic after experiencing acute-onset rectal pain earlier today while defecating. The initial pain was severe and “ripping” in quality. At the end of her bowel movement, there was also a small amount of blood on the toilet tissue. Although the pain is now slightly reduced, she is still quite uncomfortable. You discover that she has recently been prescribed methadone and has struggled with constipation as the dose has increased. Rectal exam discloses a 1 cm tear in the anal mucosa posteriorly with a small amount of oozing of bright red blood.

---

6. **Why do anal fissures typically occur, and why is the location of the fissure significant?**

Anal fissures are tears in the anal mucosa and are typically caused by a combination of trauma from passage of hardened stool, anal sphincter spasm, and local ischemia. Chronic constipation, obesity, and hypothyroidism are among the most common risk factors. Symptoms may include severe rectal pain, tenesmus, small amounts of bright red blood per rectum, and a subsequent fear of defecation. The pain typically persists after defecation.

Eighty to 90% of anal fissures occur in the posterior midline, as this tissue is most vulnerable to ischemia. Less commonly, they may present in the anterior midline. A fissure in an atypical location (e.g., lateral) should prompt the clinician to consider another
underlying process, such as inflammatory bowel disease, trauma, local malignancy, or HIV, and may warrant referral to a specialist for additional evaluation.

7. **What initial treatment would you recommend for this patient? What if her symptoms were to persist for several months?**

Anal fissures are defined as acute if present for fewer than 12 weeks; beyond that time, they are classified as chronic anal fissures.

Treatment of acute anal fissures includes stool softeners, fiber supplementation, and Sitz baths. Approximately one half of acute anal fissures will heal with supportive measures alone.

The treatment of chronic anal fissures is directed toward relaxation of the external anal sphincter. Topical nitrates or calcium channel blockers (e.g., nitroglycerin 0.2% ointment or diltiazem 2% ointment) are among the more common agents used. The use of these therapies is limited by the development of headache, which may occur in up to 25% of cases. A 2012 Cochrane Review determined that topical nitroglycerin and topical calcium channel blockers each promote greater healing of chronic anal fissures when compared with placebo, but that topical calcium channel blockers are associated with fewer adverse events. Refractory cases may be referred to a specialist for consideration of botulinum toxin injection or surgical treatment, typically lateral internal sphincterotomy.

CASE TWO

She returns to your clinic two months later for follow-up. Although her rectal pain has completely resolved, she has developed intense anal pruritis, and often unconsciously scratches the area during her sleep. She has been diligent about avoiding constipation by using a number of over-the-counter products and is now stooling three to four times daily. Repeat inspection of the perineum shows interval healing of the fissure, but new lichenification and hyperpigmentation circumferentially around the anus.

8. **What are the most common causes of pruritis ani? How would you counsel this patient?**

Pruritis ani is common in the general population but may not always be disclosed by patients. Typical causes include: poor hygiene, excessive cleaning, hemorrhoids, eczema, pinworms (classically in children or institutionalized individuals), and a number of suspected dietary irritants (e.g., coffee, citrus, spicy foods). The final common pathway in this disorder is inflammation and a self-propagating itch-scratch cycle.
Treatment is primarily directed toward the underlying cause, if one can be identified. A short course of topical steroids or application of a barrier cream like zinc oxide may also help relieve symptoms. Sedating antihistamines such as diphenhydramine or hydroxyzine may help reduce unconscious nighttime scratching.

In the case above, lichenification refers to skin thickening and an increased prominence of skin markings. Hyperpigmentation typically results from chronic inflammation of the skin. Together they suggest a history of repetitive rubbing or scratching, thus it is highly likely the patient’s symptoms are due to excessive cleaning. She should be counseled to reduce her use of over-the-counter products to target one to two soft but formed stools daily, and to avoid scratching or abrasive wiping of the area.
Primary References:

2. Rao SSC. Rectal exam: yes, it can and should be done in a busy practice! Am J Gastroenterol. 2018; 113(5):635-8. http://dx.doi.org/10.1038/s41395-018-0006-y

Additional References:

Knowledge Questions:

1. A 45-year-old woman presents to your urgent care clinic with four hours of severe rectal pain that began while driving back from vacation in Maine. Rectal exam discloses a 2cm firm, painful, dusky-blue external lesion at the left anal margin. Which of the following is the most appropriate treatment option?
   
a. Rubber band ligation  
b. Topical 0.2% nitroglycerin ointment  
c. Increased dietary fiber intake  
d. Thrombectomy  
e. Hydrocortisone suppository

2. A 33-year-old pilot with history of hypothyroidism presents with one week of pain with defecation, “like shards of glass,” and scant rectal bleeding. His symptoms began acutely after using a suppository to relieve a bout of constipation. What is the most likely location of this anorectal injury?
   
a. Anterior midline  
b. Posterior midline  
c. Posterolateral  
d. Anterolateral

3. You examine Mr. Z and find an internal hemorrhoid that protrudes from the anal verge and must be reduced manually. Which is the appropriate grade of severity of this hemorrhoid?
   
a. Grade 1  
b. Grade 2  
c. Grade 3  
d. Grade 4
Answers:

1. d The acute-onset of severe rectal pain and the description of the lesion strongly suggest a thrombosed external hemorrhoid. Thrombectomy is an appropriate treatment option if performed within 72 hours of symptom onset. Anal fissures may also present acutely, but typically occur during defecation and would appear as a mucosal tear on inspection.

Rubber band ligation may be performed on symptomatic internal hemorrhoids and resolves the hemorrhoid by inducing thrombosis and resorption. Because this patient has an external hemorrhoid that has already thrombosed, ligation is not appropriate. Increased dietary fiber and corticosteroid preparations may be helpful in the management of chronic symptomatic hemorrhoids but are insufficient in treating this acute thrombosis. Topical nitroglycerin is used to relax the external anal sphincter in the treatment of chronic anal fissures but would not be expected to significantly benefit this patient with a thrombosed external hemorrhoid.

2. b This patient most likely has an acute anal fissure. Local trauma from hardened feces, sphincter muscle spasm, and localized ischemia contribute to this tear in the anal mucosa. The posterior midline is most susceptible to local ischemia, and 80-90% of acute anal fissures occur in this direction. Anal fissures in other locations are atypical and may suggest trauma, Crohn’s disease, HIV, or malignancy, among other considerations.

3. c This patient has a Grade 3 internal hemorrhoid. Grade 1 hemorrhoids bulge but do not prolapse; Grade 2 hemorrhoids prolapse but spontaneously reduce; Grade 3 hemorrhoids must be manually reduced; Grade 4 hemorrhoids are not reducable.