Office Evaluation of Rectal Bleeding

Martha A. Ferguson, M.D.¹

ABSTRACT

Rectal bleeding is a common presentation to the colon and rectal surgeon's office. It is important to develop a systematic approach to its evaluation so as not to miss the presence of a malignancy. The possibility of more than one diagnosis contributing to the symptom should always be kept in mind. It may therefore be necessary to pursue the evaluation of the remainder of the colon, even in the presence of an anorectal source, depending on the risk factors in a given patient. In addition to inspection and digital exam, anosscopes and rigid proctosigmoidoscopes or flexible sigmoidoscopes are available to complete the office evaluation.

KEYWORDS: Rectal, bleeding, blood, malignancy, hemorrhoids, fissure

Objectives: On completion of this article, the reader should be able to evaluate the patient with rectal bleeding in a systematic manner.

Rectal bleeding is one of the most common problems the colon and rectal surgeon is asked to evaluate in the office or hospital. No matter the quantity or duration, it tends to cause greater consternation and anxiety for the average patient than almost any other problem. When a patient presents with rectal bleeding, several diagnostic possibilities must be considered and ruled out. Although many of these conditions are benign, a colorectal malignancy may also be responsible. It is therefore incumbent on the examiner to precisely identify the source of the bleeding, keeping in mind that there may be more than one cause and excluding the possibility of malignancy as the source.

HISTORY

As with any complaint, a detailed history is important in guiding the investigation into the source of rectal bleeding. Many patients who present with a chief complaint of bleeding will attribute their symptoms to hemorrhoids, so the examiner will need to question the patient carefully to clarify the symptoms. This is particularly true

since the lay person will often be embarrassed about any anorectal complaints and will not report symptoms unless asked. Although not diagnostic, the pattern of bleeding may be helpful in indicating a likely diagnosis and guiding the evaluation. This includes whether blood occurs with a bowel movement and the perceived quantity—a small amount on the tissue versus a large quantity in the toilet. The character of the bleeding should also be inquired about, whether the blood is liquid or in clots, whether on the stool or mixed with it, and whether it is also associated with the passage of pus or mucus. Bright red blood in the toilet water is often seen with hemorrhoidal bleeding and more rarely with fissures; the bleeding associated with a rectal or colonic malignancy is more often dark and mixed with the stool. In addition, the duration of bleeding should be determined. Often patients who initially report a short duration of symptoms will, on further questioning, reveal a longer history than they did initially.

The age of the patient must be taken into account. Any patient over the age of 50 who has not had colorectal cancer screening should be strongly encouraged to

Office Management; Editor in Chief, David E. Beck, M.D.; Guest Editor, Dennis E. Choat, M.D. *Clinics in Colon and Rectal Surgery*, volume 18, number 4, 2005. Address for correspondence and reprint requests: Martha A. Ferguson, M.D., Georgia Colon and Rectal Surgical Associates, 5555 Peachtree Dunwoody Rd., #206, Atlanta, GA 30342. E-mail: mferguson@gcrsa.com. ¹Georgia Colon and Rectal Surgical Associates, Atlanta, Georgia. Copyright © 2005 by Thieme Medical Publishers, Inc., 333 Seventh Avenue, New York, NY 10001, USA. Tel: +1(212) 584-4662. 1531-0043,p;2005,18,04,249,254,ftx,en;ccrs00236x.

undergo prompt colonoscopy to rule out the presence of a proximal polyp or malignant lesion. Clearly, those patients over the age of 40 with rectal bleeding who have had no previous workup must also be evaluated. Since it is estimated that only 5% of colon cancers occur below this age,¹ the evaluation of the younger patient may usually be completed with the instruments available in the office, if there is a clear anorectal source of the bleeding, such as hemorrhoidal disease, identified on exam. It is important to remember that colon cancer can occur at any age; symptoms and family history should be taken into account, and there should be a low threshold to perform colonoscopy when there is any suspicion of a malignancy or when initial evaluation either reveals evidence of a colonic lesion or shows no evidence of an anorectal source.

Often anorectal symptoms will not exist in isolation. Although the patient may initially complain of one primary symptom, there may be other, associated complaints. The presence of tenesmus or a change in caliber of stool may be suggestive of rectal malignancy. A tearing pain with bowel movements suggests a fissure. Constant, nagging pain progressive over time may be associated with an anal cancer with invasion of the sphincter apparatus. The sensation of a mass dropping down, either firm or soft, either reducing spontaneously or with manual pressure, may be suggestive of either hemorrhoidal or full-thickness rectal prolapse and may require specific investigation. The presence of any of these symptoms may help to guide the examination.

PAST MEDICAL HISTORY

A thorough medical history is essential, and this should include a medication review.^{2,3} Some medications may worsen anorectal symptoms by causing constipation (e.g., calcium channel blockers) or diarrhea (e.g., proton pump inhibitors), or may contribute to bleeding (e.g., Coumadin, nonsteroidal anti-inflammatory drugs). Patients will often forget procedures that have been performed in the past. It may be necessary to elicit a history of hemorrhoidectomy, fissure surgery, fistula surgery, polypectomy, or colectomy. Other operations, such as cholecystectomy or gastric bypass, which the patient thinks unimportant but which may cause gastrointestinal symptoms, should be specifically elicited. Symptoms related to those procedures, such as incontinence, may also be revealing regarding the etiology of the current complaint, as well as being important information to know in counseling the patient should additional surgery be required. Any previous evaluation, such as with flexible sigmoidoscopy or colonoscopy, may also be significant, as well as a history of polypectomy performed in conjunction with one of these procedures. Although a rare cause of rectal bleeding, anal trauma or anal-recep-

tive intercourse should also be included on a complete history.

The patient should be asked specifically about a family history of hemorrhoids, polyps, colon or rectal cancer, familial adenomatous polyposis, or inflammatory bowel disease. In addition, the presence of multiple cancers associated with hereditary non-polyposis colon cancer (ovarian, uterine, parathyroid, etc.) may guide further investigation. A history of "liver cancer" may with further questioning represent a tumor that originated in the colon and became metastatic. Patients with a first-degree relative with the above cancers in their history should be evaluated with colonoscopy when they reach an age 10 years before the relative was diagnosed.

REVIEW OF SYSTEMS

Physicians should ask about the presence of systemic symptoms such as weight loss or fatigue, although these are late signs of malignancy. Other systemic symptoms such as night sweats or fevers, particularly in the presence of diarrhea, may guide the investigation. The patient should be asked about a history of constipation. The need (or perceived need) for a laxative to initiate or complete a "good" bowel movement, a sensation of incomplete evacuation, or digital extraction or perineal pressure to evacuate can be revealing and will be helpful in counseling the patient regarding treatment.

PHYSICAL EXAMINATION

To obtain a good exam, the patient should be positioned appropriately for the examiner and to maximize the patient's comfort. To this end, a good proctologic table is an essential part of the office equipment. The three positions appropriate for proctologic exam are Sims' (modified left lateral decubitus), prone jack-knife (or knee-chest), or dorsal lithotomy. In general the prone jack-knife position is preferred, although Sims' position may be necessary for patients with arthritis or knee replacements or for the pregnant patient. Sims' position may require that the assistant retract the superior buttock during inspection or procedures. An assistant should always be present to aid the examiner and to function as a chaperone during the exam, no matter the gender of the patient.

External inspection should be the first step in evaluation. Gentle spreading of the buttocks should make visualization of the entire squamous portion of the anal canal possible. At this stage, the patient should also be asked to bear down or strain. The Valsalva's maneuver may aid in the examination of a long anal canal or a funnel-shaped anus. This also makes the identification of prolapsing hemorrhoids or procidentia easier,

although this is one limitation of the prone position—gravity may work against making this diagnosis. In cases where there is a strong suspicion of prolapse, the patient may be taken to the toilet and asked to bear down. The perineum may then be inspected with a small hand mirror. If the patient has difficulty complying and there is a strong suspicion, administration of a suppository or enema may help elicit the prolapse.

Many conditions can be diagnosed simply based on the external appearance. Incarcerated hemorrhoids, fistula opening, abscess, prolapsed polyps or tags, external thromboses with extravasation of blood clot, rhagades, fissures, ulcerations, or sentinel tags may be immediately apparent. The typical Crohn's anus may also be obvious and careful note should be made of waxy or edematous tags and multiple deep fissures or fistula openings. An advanced anal cancer extending beyond the anal canal may sometimes be visualized on the anal verge.

Although not usually a cause of significant rectal bleeding, dermatologic conditions of the perianal region may also be identified during this portion of the examination. Excoriation of the perianal skin may at times be so severe as to bleed: this may be identified by the patient as pain and blood on the tissue. Perianal skin cancers may also present as bleeding in an advanced stage.

The digital rectal exam is then performed. The gloved and lubricated index finger is slowly inserted, with gentle pressure applied opposite a fissure, thrombosis, or other obvious pathology. If necessary, a mild topical anesthetic, such as clear viscous lidocaine, may be applied externally. The finger is rotated, and the wall of the anus and distal rectum is systematically and circumferentially examined for masses or sensitive areas. Hemorrhoids will generally not be palpable unless very large or thrombosed. With practice, an anal papilla can easily be distinguished from a mass. In the male patient, the prostate should be evaluated for texture, tenderness, size, and masses. The overlying mucosa should easily slide over the prostate. In the female patient, the cervix can often be palpated through the wall of the rectum, and should not be mistaken for a rectal mass. Foreign bodies in the vagina, such as a pessary or a tampon, may also be palpable on rectal exam.

A rectal cancer may be identified on digital exam as a firm mass, often with a rough or ulcerated surface, and often not freely mobile. On some occasions, a thrombosis within the anal canal may be misinterpreted as a polyp or cancer, which is why direct visual inspection of the anal canal and rectum is important.

This is also an excellent opportunity to gently reduce prolapsed hemorrhoids or a full-thickness prolapse. In the evaluation of rectal bleeding, testing for microscopic blood in the stool essentially has no role: when blood has been visualized, more specific tests are needed to identify a clear source.

ANOSCOPIC EXAM — CIRCUMFERENTIAL

Simple palpation without visual inspection is inadequate to definitively evaluate the anus and rectum, and there is not a single instrument that can fully evaluate both. The lining of the anal canal is not well-visualized with either a rigid proctosigmoidoscope or a flexible sigmoidoscope. Although some endoscopists will examine the distal rectum by retroflexion of a flexible scope, this will not visualize internal hemorrhoids as well as an anoscope, and it is very uncomfortable in the awake patient. An adequately equipped proctologic office should therefore have available a selection of anoscopes.

There are many styles of anoscope manufactured for office use. A bivalve anoscope, similar to the traditional vaginal speculum, is a useful tool in the operating room, but can be quite uncomfortable in the awake patient, especially when the rectal bleeding is associated with a painful condition. Since a painful exam may undermine the patient's confidence and make him or her uncooperative, a tapered, slotted scope that allows for a view of the lateral wall of the anal canal is preferable. These should be available in both pediatric and adult sizes—again, a smaller scope may be necessary to evaluate a patient with a painful condition or with an anal stenosis (Fig. 1). An adequate light source should also be incorporated into the instrument. Light sources may be incandescent or fiber optic.

In evaluating the anal canal, emphasis should be placed on the three hemorrhoidal columns, right anterior and posterior, and left lateral. In the normal state with the patient in prone position these should be nonengorged and relatively flat. In patients with significant hemorrhoidal pathology they will bulge into the slot on the anoscope, and in some cases may appear friable or have visible blood on the overlying mucosa. In the case of chronic hemorrhoidal prolapse, there will often be

Figure 1 Anoscopes.

whitish discoloration of the mucosa representing squamous metaplasia. The hemorrhoid may be gently grasped with an instrument above the level of the dentate line and traction placed on it to determine if it easily prolapses outside of the anal canal.

Other conditions that may be visualized on anoscopic exam include fissure, ulceration, hypertrophied papilla, and distal proctitis. An ulcer may be related to HIV or other sexually transmitted disease, Crohn's disease, or anal cancer. Although usually painful below the dentate line, if the ulceration extends above the dentate line a biopsy may be taken through the anoscope. Lesions at or below the dentate line may be biopsied using a topical or injectable anesthetic or with a small forceps such as a flexible biopsy forceps from a flexible sigmoidoscope. Otherwise, the evaluation may have to be completed in the operating room under anesthesia. Hypertrophied anal papillae, when large enough to prolapse, are more often the cause of pain rather than bleeding, but should be noted. Distal proctitis may be visible as a circumferential area of marked erythema at the upper extent of visualization with the anoscope. Further evaluation is then necessary to assess the full extent of rectal involvement.

PROCTOSCOPIC EXAMINATION

Especially if there is no evidence of a source for the bleeding with the initial inspection, digital rectal exam, and anoscopy, the next step should be a detailed visualization of the rectum and sigmoid. Both the rigid and the flexible proctosigmoidoscope have their role in the evaluation of rectal bleeding, so that both should be available for a good assessment. The rigid scope allows one to examine and biopsy the entire rectum, as well as the distal sigmoid colon. Significantly, tumors can be identified which lie within the rectum above the reach of the index finger (6 to 7 cm) but below the peritoneal reflection. This is an area which may also be missed by a radiographic study, because the tumor is obscured either by the balloon on a barium enema or by the bony structures of the pelvis. In addition, for planning further treatment, the rigid scope is the standard instrument for measuring the distance of a rectal tumor from the dentate line or anal verge, since a flexible scope may give an inaccurately high measurement. Moreover, in the presence of active bleeding, the proctoscope may allow for the distinction between blood originating above the peritoneal reflection from that originating below. If the distal sigmoid colon can be visualized, the diagnosis of diverticulosis may also be made.

A formal bowel preparation is not necessary for proctoscopy. In some cases, if the patient has had a bowel movement that day and the rectum is empty (if not, this will have been obvious on digital rectal exam), the exam may be performed with no preparation at all. This is

preferable if a diagnosis of ulcerative colitis or Crohn's disease is being entertained, as the mucosa may be very friable and easily injured. Otherwise, the rectum and distal sigmoid may be cleaned out with a single phosphate enema.

The rigid proctoscope should be introduced with an obturator in place, so that the edges of the scope do not traumatize the anus. With the lubricated scope directed slightly toward the umbilicus and a thumb holding the obturator in place, the proctoscope is gently advanced the length of the anal canal. The obturator is then removed and the eyepiece inserted. With gentle insufflation, the scope should be directed around the rectal valves (valves of Houston), which are located approximately at depths of 6 to 7 cm on the left, 9 to 11 cm on the right, and 12 to 15 cm on the left rectal wall (with the upper extent of the rectum being roughly 15 cm in a male and 12 cm in a female patient).² Ideally, the scope may be inserted to its full length of 25 cm, around the rectosigmoid junction. This allows for visualization of the distal sigmoid. In some patients this may not be possible, particularly in those with a history of prior pelvic surgery. Care should be taken at this point not to advance the scope with force, as the rectosigmoid junction is the location most prone to perforation, especially when the sigmoid is fixed due to scarring from previous surgery. Once the scope has been inserted to its fullest extent, it should be slowly removed while the mucosa is evaluated circumferentially.

It is important to have a systematic approach to the examination so that exams are consistent from patient to patient. This will make it easier to remember and document findings. The examiner should also be prepared with biopsy forceps and have an assistant available, in case significant pathology is encountered. Simple biopsies may safely be taken without bowel preparation other than the previously mentioned enema; there is slightly greater risk of igniting combustible gases and thereby causing a perforation of the colon when using snare and cautery in an unprepared colon. In the case in which a rectal cancer or polyp is identified, the rigid scope is the best instrument for measuring the distance of the tumor from the dentate line. Formal polypectomy is better deferred until full bowel preparation can be done for colonoscopy, as the remainder of the colon will need to be evaluated to rule out the presence of synchronous lesions.

FLEXIBLE SIGMOIDOSCOPY

More and more, rigid proctoscopy is being replaced by flexible sigmoidoscopy. This is due to greater patient comfort, ease of exam, and the ability to examine a greater extent of the colon. However, except in the patient at very low risk for malignancy based on age, it does not contribute a great deal more to the evaluation

than the rigid scope. For any patient in whom there is family history of early cancer, personal history of associated cancers or polyps, or indication based on age, it is preferable to proceed to colonoscopy rather than perform the in-office flexible sigmoidoscopy.

COMMON CAUSES OF BLEEDING

What follows is a brief description of several commonly diagnosed conditions which may cause rectal bleeding. The management of these conditions is discussed separately.

Hemorrhoids

Hemorrhoidal disease is commonly misdiagnosed by primary-care physicians as well as patients. The hemorrhoids are vascular cushions within the anal canal and are divided into internal and external components. External hemorrhoids are located within the distal third of the anal canal and, when thrombosed, are visible as areas of bluish swelling on the anoderm. The primary symptom of external hemorrhoids is pain, but they may present as rectal bleeding when the pressure of the clot on the overlying skin causes erosion of the skin and extravasation of the underlying clot. This will be readily visible on external inspection.

Internal hemorrhoids are a more common cause of isolated rectal bleeding. In the nonpathological state, they are located proximal to the dentate line and are flat when viewed on anoscopy in the prone patient. In the pathologic state, they are divided into grades based on size and symptoms; pain is generally not present except in an advanced state. Grade I hemorrhoids protrude into, but do not prolapse from, the anal canal and may cause painless bleeding. They may not appear significantly engorged on anoscopic exam. Grade II hemorrhoids may prolapse and bleed, but will spontaneously reduce back into the anal canal. At this stage, they are usually enlarged enough to be visibly engorged on anoscopy. Grade III hemorrhoids prolapse and require manual reduction by the patient. These will appear markedly enlarged when viewed with an anoscope, and, as described above, may prolapse from the scope when gentle traction is placed on them with an instrument. Grade IV hemorrhoids are incarcerated or are prolapsed and unable to be reduced. All grades of internal hemorrhoids may bleed, but pain is usually present only in incarcerated hemorrhoids, in which case the pain may be severe when they have become thrombosed and gangrenous.

Grade IV hemorrhoids may be so painful as to prevent further exam. As part of the inspection, careful note should be made of the orientation of the folds of skin around the anus. The radial folds of tissue visible in incarcerated hemorrhoids should be distinguished from

the circumferential folds of tissue of a full-thickness prolapse, since treatment will be quite different.

Fissures

Fissures are usually accompanied by a great deal of pain; the bleeding may be a smaller component of the symptoms. Most often a fissure will result in blood on the tissue, although in some cases blood may drip into the toilet or cause a visible streak on the stool. During the inspection of the anal verge and external anal canal, an idiopathic fissure may be seen as a break in the skin of the anterior or posterior midline. Ninety percent of idiopathic fissures will occur in these locations. In the chronic state the edges of the fissure may have a rolled appearance; it also may be associated with a small sentinel tag (which the patient will often report as a hemorrhoid) and hypertrophied anal papilla (which may be noted by the patient if it prolapses). In the acute state, fissures may be so painful as to prevent further examination until empiric therapy has improved symptoms; anoscopy and sigmoidoscopy may be deferred until a follow-up visit, when the patient is more comfortable and cooperative.

Fissures occurring in lateral locations around the anal canal are suspicious for other disease processes. The majority of these are attributable to Crohn's disease, and in this case are usually quite deep and associated with a thick edematous external skin tag which may be violaceous in color. These fissures may have eroded deep into the sphincter muscle by the time they become symptomatic, or a portion may have healed over, causing a superficial fistula. Biopsy of the ulcer or the tag may be diagnostic if granulomas are present.

Other causes of lateral fissures include syphilis, tuberculosis, leukemia, anal cancer, and HIV. Anal tuberculosis is invariably associated with previous or active pulmonary TB; biopsy will again be diagnostic. A fissure or ulcer may be associated with cytomegalovirus infection in patients who are immunocompromised by chemotherapy or HIV; HIV itself is also a cause of anal ulcers. There is invariably a history of anal receptive intercourse in these patients.

Anal cancers will initially appear as painless fissures; they are generally not painful until they have begun to erode into the sphincter muscle. Any chronic nonhealing fissure should be biopsied to rule out this possibility.

Prolapse

As alluded to above, the full-thickness prolapse may be distinguished from mucosal or hemorrhoidal prolapse by the orientation of the folds: concentric folds are seen in full-thickness prolapse. If the prolapse cannot be demonstrated in the office when the patient strains,

other evidence may support the diagnosis such as the perianal skin being macerated or excoriated, or there may be fecal or mucous soiling. Typically, anal resting and squeeze pressures will be noticeably diminished when performing the digital rectal exam. In the case of internal intussusception, when this has not progressed to procidentia, a solitary rectal ulcer may be visible on sigmoidoscopy or proctoscopy. Sometimes the leading edge of the intussusception will be visible when the patient strains even though circumferential prolapse may not yet have developed.

Abscess/Fistula-in-Ano

Although bleeding is an unusual primary symptom with abscess or fistula-in-ano, it may be the symptom that brings the patient to the office. The spontaneous drainage of a perirectal abscess may produce purulent material mixed with blood. In this case, there will be an obvious fluctuant area with a foul-smelling discharge. After any necessary additional drainage or debridement is performed in the office, the patient should be brought back for follow-up examination to exclude the presence of fistula-in-ano.

Proctitis

Rectal bleeding is the most common symptom of proctitis. It is usually bright red and often associated with frequent, small-volume stools and a mucoid discharge. Tenesmus and urgency are frequent complaints, although occasionally the patient's complaint will be of constipation. Mild abdominal cramping may precede the passage of stool. Other constitutional symptoms, such as fever, joint pain, weight loss, anorexia, and malaise, while associated with colitis, are not generally present with isolated proctitis.

Proctitis may be suspected when the above symptoms are present, external inspection is normal, and there is a great deal of discomfort associated with the digital rectal exam. Anoscopy may be virtually impossible. On proctoscopy or flexible sigmoidoscopy, the mucosa of the rectum will appear granular, edematous, and erythematous; there may be adherent mucus or blood; the normal vascular pattern may be lost due to edema. When these changes are present above 15 cm, it is better classified as proctosigmoiditis and merits further evaluation with colonoscopy. Biopsy should be performed to distinguish idiopathic proctitis from infectious proctitis or colitis.

Polyps/Rectal Cancer

The presence of anorectal pathology in a patient over 40 should not prevent further examination to rule out the presence of a colorectal neoplasm. Any polyp seen on rigid or flexible sigmoidoscopy should be removed in its

entirety, and except in rare instances, this should be done on a subsequent colonoscopy. During the initial exam, note should be made of the dimensions of the lesion; whether pedunculated or sessile; if sessile, the fraction of the circumference it occupies; the fixity or mobility of the lesion; and the presence of visible ulceration. A fixed, sessile lesion measuring greater than 2 cm and with ulceration is more suspicious for rectal cancer. A rigid proctoscope should be used to measure the distance proximal to the dentate line for later planning of surgical intervention and possibly neoadjuvant therapy.

Diverticulosis

The bleeding secondary to diverticulosis is generally heavier than that associated with the other conditions outlined above, and most often these patients will have gone, or been directed to, a hospital emergency room. In some cases a patient may present to the office having had multiple bloody bowel movements; in the case of diverticulosis, there may be associated lower abdominal cramping, since blood in the intestinal lumen functions as a cathartic. The blood may initially be mixed with the stool, while subsequent bowel movements will be composed almost entirely of maroon blood or clots. If the patient is evaluated in the office, blood will be seen throughout the rectum and visualized coming from above the peritoneal reflection; on some occasions, there will be clots extruding from the openings of diverticula. This patient should be moved quickly to the hospital setting for further evaluation and management.

SUMMARY

In the typical stable patient with complaints of rectal bleeding, the evaluation may be begun in the office setting. Using minimally invasive diagnostic tools, the common anorectal causes of bleeding can be identified and often treated. This requires a systematic approach, with patience and gentleness to obtain the cooperation of the patient. The result is often a patient whose significant anxiety can be alleviated in the course of an initial office visit.

REFERENCES

1. Gordon PH. Malignant neoplasms of the colon. In: Gordon PH, Nivatvongs S, eds. *Principles and Practice of Surgery for the Colon, Rectum, and Anus*. St. Louis, MO: Quality Medical Publishing Inc 1999:575-717
2. Marcio J, Jorge N. Anorectal anatomy and physiology. In: Beck DE, Wexner SD, eds. *Fundamentals of Anorectal Surgery*. London, UK: WB Saunders Co Limited; 1998:1-24
3. Beck DE, Perry WB. History and physical examination. In: Beck DE, ed. *Handbook of Colorectal Surgery*. 2nd ed. New York, NY: Marcel Dekker; 2003:31-42