Procedure for Prolapse and Hemorrhoids

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Indications

Grade II internal hemorrhoids
Grade III internal hemorrhoids
Grade IV internal hemorrhoids (selective or individualized only)
Partial thickness internal rectal prolapse

Documentation Basics

- Document indications
- Document palpation of vagina in female patient

Preoperative Preparation

Diagnostic studies: anoscopy and visualization of patient straining on the commode (colonoscopy, defecagraphy, dynamic MRI—if indicated):

- NPO, intravenous fluids
- Perioperative antibiotics maybe used, but not necessary
- Enema

Pitfalls and Danger Points

Inadequate protection of the anal canal with the retractor leading to placement of staple line too close to the dentate line and postop pain
Inadvertent full thickness transection rather than mucosal transection only
Inadvertent retraction or transection of vagina in female patients causing rectovaginal fistula
Inadequate control of blood vessels at staple line
Inadvertent complete closure of the rectum
Poorly placed staple line too proximal to hemorrhoidal apex leading to inadequate resection

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Operative Strategy

Anesthesia and Positioning

General anesthesia is preferable. A paralytic agent is recommended prior to the "critical 3 minutes" when the stapler will be closed. This avoids Valsalva and straining which could lead to bleeding and avulsion. Place the patient in the prone jackknife position with soft support of the shoulders, hips, and knees. The hips should be higher than any other body part in this position in flexion with 30° Trendelenburg.

Anal Dilation and Placement of the Retractor

A pudendal nerve block provides both anesthesia and paralysis of the anal sphincter for dilation. Without the nerve block, placing the retractor may be difficult and may cause injury, since the internal sphincter is contracted at rest Perform digital rectal exam before placing the anal retractor with obturator. Take great care to assure the retractor covers the dentate line completely and circumferentially before securing it in place.

Purse String Suture Placement and Transection of the Rectal Mucosa

Be careful to remove and replace the obturator when placing the purse string, rather than simply turning it clockwise. This avoids pulling the mucosa and creates a more complete

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purse string circumferentially. At the posterior midline, pay particular attention to the placement of the fenestrated obturator and the placement of sutures to avoid suturing the anterior wall of the rectum instead of the intended posterior wall.

Remove the fenestrated obturator and replace it with the fully open PPH-03 stapler (Ethicon, Johnson & Johnson, Cincinnati, OH). Modification of this technique is necessary for the HEM stapler (Covidien, Mansfield, MA).

While closing the stapler, carefully palpate the posterior vaginal wall in female patients to avoid catching it in the jaws of the stapler. If this is a concern, open the stapler. Cut the purse string suture and remove the stapler. Start again. Creating an iatrogenic rectovaginal fistula is inexcusable.

During the "critical 3 minutes," avoid patient Valsalva; otherwise, the mucosa may be avulsed leading to profuse bleeding. This must be corrected by manually suturing the mucosal defect for hemostasis and may lead to stenosis if circumferential.

Operative Technique

Anal Dilation and Placement of the Retractor

Use local anesthetic to place a pudendal nerve block bilaterally with or without a perianal block by palpating the ischial tuberosity, directing the needle in that direction, aspirating, and then injecting, followed by injecting in the direction of the anus in a fanning motion into the subcutaneous tissue. Perform a digital rectal exam and place the anal retractor with obturator to cover the dentate line (Fig. 70.1). Secure the retractor with perianal stay sutures. The obturator should be replaced with the fenestrated obturator to facilitate placement of the purse string suture 4 cm from the dentate line or just proximal to the apices of the hemorrhoidal pedicles.

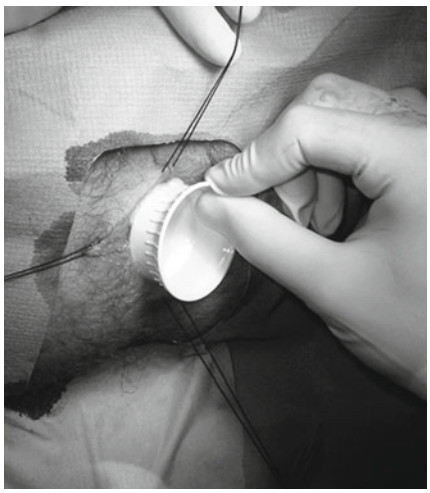

Fig. 70.1

Fig. 70.2

Purse String Suture Placement and Transection of the Rectal Mucosa

Once the fenestrated obturator is in proper position, the purse string suture is placed with mucosal bites using 2-0 Prolene suture beginning at the anterior midline and progressing in quadrants (Fig. 70.2), taking care to remove and replace the obturator rather than simply turn it clockwise. This avoids pulling the mucosa and creates a more complete purse string circumferentially. At the posterior midline, pay particular attention to the placement of the fenestrated obturator and the placement of sutures to avoid suturing the anterior wall of the rectum instead of the intended posterior wall. Complete the purse string by ending the stitch where it started without overlap. The fenestrated obturator is removed and replaced with the fully open PPH-03 stapler (Ethicon, Johnson & Johnson, Cincinnati, OH). Modification of this technique is necessary for the HEM stapler (Covidien, Mansfield, MA). Tie the purse string suture around the shaft of the anvil (Fig. 70.3), taking care to assure the entire anvil is proximal to the purse string. An extra stitch may be placed 180° opposite the purse string knot to assure the purse string is secure and even circumferentially. Then bring out the two suture ends through the eyelets of the stapler using the hook. Secure them with a surgeon's knot. While maintaining distal traction on the suture, start to close the stapler by allowing the stapler to enter the anus rather than pulling the mucosa to the stapler (Fig. 70.4). Once the marker is centered in the green window of the handle, hold it in position for 60 s. Take this opportunity to manually palpate the posterior vaginal wall to avoid catching it in the

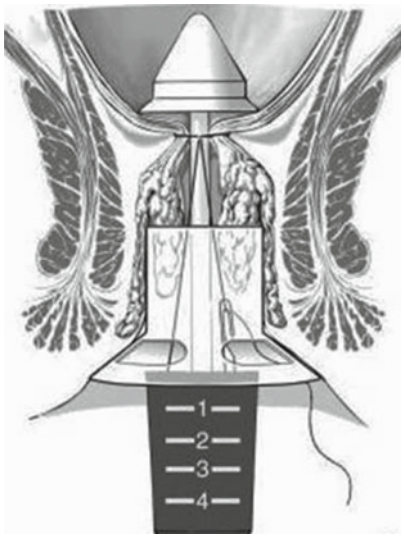

Fig. 70.3

Fig. 70.4

jaws of the stapler. Then continue to close the stapler until the marker passes through the window and hold for an additional 60 s. It is imperative during these "critical 3 minutes" the patient does not Valsalva to avoid avulsing the mucosa. Then remove the safety and fire and hold the stapler in position for 60 sections. At this point, release the stapler handle and turn 1 full turn to partially open the anvil. Remove the stapler from the anus. Open the anvil and cut the rectal mucosa to pass it off the table for pathologic evaluation.

Inspection for Hemostasis and Removal of Retractor

Replace the fenestrated obturator in the anal canal, and use saline irrigation to assess for hemostasis. Any bleeding from the staple line should be reinforced with figure of 8 absorbable sutures. If additional sutures have been placed, visually inspect the staple line circumferentially until hemostasis is deemed acceptable. Cut the perianal stay sutures and remove all retractors.

Dress the wound with 4×4 gauze and a peripad.

Postoperative Care

Postoperative antibiotics need not be administered. The patient is discharged from the recovery room with PO narcotics. Minimize IV fluid to avoid urinary retention. If the patient is unable to void within 6 h of the procedure, place a Foley catheter for 24 h. Sitz baths will aid in pelvic muscle relaxation and decrease pain, as well as improve hygiene. Fiber bulk-forming laxatives or stool softeners are imperative in decreasing pain and avoiding constipation. Most patients recover well in 2 weeks.

Complications

Postoperative *hemorrhage* occurs with increased abdominal pressure or Valsalva with straining. If this does not abate with conservative measures, it is necessary to return to the operating room for an exam under anesthesia and hemostasis. The patient should be observed for 23 h to assure no further bleeding.

Postoperative pelvic *sepsis* is the most feared postoperative complication of any hemorrhoidal procedure. Symptoms of increasing pain, urinary retention, and fever are typical and should be treated immediately with hospital admission, IV fluid and antibiotics, and Foley catheter drainage.

Wound infection is less serious. The patient will complain of a possible foul-smelling mucous discharge and failure of resolution of pain over time.

Postoperative pain is due to the staple line being too close to the dentate line or stapling the anoderm. A patient should expect discomfort, a sensation of distention, or a perception of the need to defecate during recovery.

This can lead to *stenosis* or contracture of the healing staple line. This presents as constipation or obstructive defecation and can be treated with dilation or stricturoplasty.

Continued postoperative pain past several weeks can be due to a *retained staple*. Staples by themselves are not painful, but a malpositioned or partially open staple can induce discomfort, especially with defecation, and therefore, should be removed.

Fecal incontinence may result from anal dilation, even though the anal sphincter itself is not cut or directly injured. Removing a portion of the internal hemorrhoids and mucosa

can cause decreased sensation, soiling, or incontinence by remove some of the sensory receptors in this area. Incontinence of solid stool is rare with normal preoperative continence; however, incontinence of gas or liquid stool is more common.

Further Reading

Arbman G, Krook H, Haapaniemi S. Closed vs open hemorrhoidectomy – is there any difference? Dis Colon Rectum. 2000;43:31–4.

Barron J. Office ligation treatment of hemorrhoids. Dis Colon Rectum. 1963;6:10.

Barwell J, Watkins RM, Lloyd-Davies E, Wilkins DC. Life-threatening retroperitoneal sepsis after hemorrhoid injection sclerotherapy: report of a case. Dis Colon Rectum. 1999;42:421–3.

Carapeti EA, Kamm MA, McDonald PJ, et al. Randomized trial of open vs closed day-case haemorrhoidectomy. Br J Surg. 1999;86:612–3.

Cataldo P, Ellis CN, Gregorcyk S, et al. Practice parameters for the management of hemorrhoids (revised). Dis Colon Rectum. 2005;48:189–94.

Chew SS, Marshall L, Kalish L, et al. Short-term and long-term results of combined sclerotherapy and rubber band ligation of hemorrhoids and mucosal prolapsed…. Dis Colon Rectum. 2003;46:1232–7.

Ho YH, Seow-Choen F, Tan M, Leong EF. Randomized controlled trial of open and closed haemorrhoidectomy. Br J Surg. 1997;84:1729–30.

Hosking SW, Johnson AG, Smart HL, Triger DR. Anorectal varices, haemorrhoids, portal hypertension. Lancet. 1989;i:349–52.

Jensen DM, Jutabha R, Machiacado GA, et al. Prospective randomized comparative study of bipolar electrocoagulation vs. heater probe for the treatment of chronically bleeding internal hemorrhoids. GI Endo. 1997;46:435–43.

Johnson K, Bardin J, Orloff MJ. Massive bleeding from hemorrhoidal varices in portal hypertension. JAMA. 1980;244:2084–5.

Konsten J, Baeten CG. Hemorrhoidectomy vs. Lord's method. A 17-year follow-up of a prospective, randomized trial. Dis Colon Rectum. 2000;43:503–6.

Lee HH, Spencer RJ, Beart Jr RW. Multiple hemorrhoidal banding in a single session. Dis Colon Rectum. 1994;37:37–41.

Lestar B, Penninckx F, Kerremans R. The Composition of Anal Basal Pressure: An in vivo and in vitro study in man. Int J Colorectal Dis. 1989;4:118–22.

Madoff RD, Fleshman JW. American Gastroenterological Association review on the diagnosis and treatment of hemorrhoids. Gastroenterology. 2004;126:1463–73.

McRae HM, McLeod RS. Comparison of hemorrhoidal treatments: a meta-analysis. Dis Colon Rectum. 1995;38:687–94.

Medich DS, Fazio VW. Hemorrhoids, anal fissure, and carcinoma of the colon, rectum, and anus during pregnancy. Surg Clin North Am. 1995;75(1):77–8.

Misra MC, Parchad R. Randomized clinical trial of micronized flavonoids for bleeding from acute internal haemorrhoids. Br J Surg. 2000;87:868–72.

Nisar PJ, Acheson AG, Neal KR, Scholefield JH. Stapled hemorrhoidopexy compared with conventional hemorrhoidectomy, a systematic review of randomized controlled trials. Dis Colon Rectum. 2004;47:1837–45.

Saleeby Jr RG, Rosen L, Stasik JJ, et al. Hemorrhoidectomy during pregnancy. Dis Colon Rectum. 1991;34(3):260–1.

Scarpa FJ, Hillis W, Sabetta JR. Pelvic cellulitis: a life-threatening complication of hemorrhoidal banding. Surgery. 1988;103:383–5.

Shibata D, Brophy DP, Gordon F, et al. Transjugular intrahepatic portosystemic shunt treatment of bleeding ectopic varices with portal hypertension. Dis Colon Rectum. 1999;42:1581–5.

Thompson WH. The nature of hemorrhoids. Br J Surg. 1975;62:542–52.

Wolf J, Munoz J, Rosin J, et al. Survey of hemorrhoidectomy practices: open vs closed techniques. Dis Colon Rectum. 1979;22:536–8.