Evaluation, Diagnosis, and Medical Management of Rectal Prolapse

Jamie A. Cannon, MD, FACS¹

¹Department of Surgery, University of Alabama at Birmingham, Birmingham, Alabama

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Address for correspondence Jamie A. Cannon, MD, FACS, University of Alabama at Birmingham, Birmingham, AL 35233 (e-mail: jacannon@uabmc.edu).

Abstract

Full-thickness rectal prolapse, or procidentia, is the passage of the full-thickness wall of the rectum beyond the anal sphincters. This condition results in pain and fecal incontinence which greatly impairs the quality of life of those afflicted. It is associated with several anatomic abnormalities, including decreased anal sphincter tone, levator muscle diastasis, and a deep anterior cul-de-sac. The diagnosis of rectal prolapse is made based on physical examination, although several other modalities are used to provide additional information about the patients' condition. While medical management of rectal prolapse can be effective in some cases, the mainstay of management of rectal prolapse is surgical correction.

Keywords

- rectal prolapse
- procidentia

Pathophysiology

Rectal prolapse is the full-thickness prolapse of the rectum, in which the rectum passes externally beyond the anal sphincters. It is a somewhat rare condition, estimated to occur in less than 0.5% of the population.¹ Rectal prolapse has a 9:1 female predominance, and while it is occasionally seen in younger individuals, the incidence increases with age.² There is a higher incidence of psychiatric conditions in those with rectal prolapse, and developmental disorders and substance abuse appear to be risk factors.³ Despite the common perception that multiparity causes rectal prolapse, the incidence of procidentia is actually higher in nulliparous women.⁴ Greater than one-third of women with rectal prolapse have never carried a pregnancy to term. Many women with rectal prolapse also suffer from generalized pelvic floor weakness, and may also have a concomitant uterine/vaginal prolapse, enterocele, rectocele, or cystocele.

Women with rectal prolapse commonly demonstrate other anatomic abnormalities. In order for the rectum to prolapse, the rectosacral attachments must be attenuated. Sphincter tone is generally decreased. Attenuated sphincter muscles and decreased resting tone allow the rectum to prolapse through the sphincters. Once rectal prolapse has occurred, continued prolapsing of the rectum can exacerbate

weakened sphincter tone, as the prolapsing rectum stretches the sphincters further. This can lead to a patulous anus in which the anus remains open at rest. Patients generally also have a redundant sigmoid colon, as there must be sufficient length of bowel for it to prolapse. Other associated findings are a diastasis of the levator ani, and a deep anterior cul-de-sac (pouch of Douglas).⁵ Whether these findings precede the rectal prolapse and predispose a patient to prolapse or are the results of the rectum prolapsing is not known.

Clinical Evaluation

The diagnosis of rectal prolapse is made solely on history and physical examination. Patients are able to describe tissue extruding from the rectum. It occasionally takes detailed questioning to determine if what the patient is experiencing is actually prolapse coming out of the rectum or bulging into the vagina, which would be more consistent with an enterocele or rectocele. When a true prolapse is present, most patients are able to describe how much tissues prolapses, whether it remains out continuously or is able to be reduced, and whether it reduces spontaneously or requires manual reduction. Other associated symptoms include a general sense of pelvic fullness or need to defecate even when the

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rectum is reduced. Most patients also report rectal bleeding, which can be due to a solitary ulcer or irritation of the rectal mucosa. Pain is uniformly present when the rectum is outside the body, and mucous discharge and varying amounts of soiling are present.

Fecal incontinence is generally present with rectal prolapse. Wallenhorst et al reported that 88% of women with rectal prolapse also suffer from some degree of fecal incontinence.⁶ This can range from mild soiling only when the rectum is prolapsed to gross loss of bowel movements. Patients with rectal prolapse may rarely have intact sphincter muscles, but the more common scenario is weakened resting tone that allows the rectum to pass through the anal canal. Women who have maintained sphincter tone are at increased risk of developing an incarcerated rectal prolapse that becomes edematous and is not able to be reduced; this constitutes a surgical emergency. Incontinence is aggravated by recurrent prolapse which creates stretch injury to the sphincters.⁷ The earlier a rectal prolapse is corrected, the less damage there is to the sphincter muscles and the better the prognosis. It is important to note that while rectal prolapse repairs do not directly correct sphincter dysfunction, repair of the prolapse itself improves the symptoms of incontinence.^{8–12}

Many of these patients also suffer from urinary difficulties. These can be due to associated genitourinary organ prolapse, but even isolated rectal prolapse can lead to urinary difficulties secondary to the pressure and traction generated by the prolapsing rectum. Women who report significant urinary incontinence or difficulty initiating micturition should be evaluated by urogynecology prior to any planned surgical repair, as these conditions can often be addressed simultaneously.

Assessment of constipation is an important aspect of the evaluation. Rectal prolapse is associated with constipation, with evacuation difficulties reported in 50 to 75% of patients.¹ Patients with extreme constipation suggestive of colonic inertia require workup for this condition as well. The presence of constipation may also affect the choice of operative approach. Whether constipation is the cause of rectal prolapse or an effect of it is not clear. The presence of a redundant colon can be a predisposing factor for both constipation and rectal prolapse. Constipation and excess straining likely contributes to the development of the prolapse, but can also be exacerbated by it.

On physical examination, the classic finding is that of the rectum protruding from the anus, with concentric folds visible. This may have a long appendage-like appearance, as seen in ►Figs. 1 and 2. This type of rectal prolapse is generally easily reducible, although it may readily prolapse again. It may also have a large, wide, grapefruit-like appearance as seen in ►Fig. 3. This type of prolapse is more prone to incarceration. Other conditions that may be confused with rectal prolapse include prolapsing hemorrhoids, or a mass prolapsing out of the rectum.¹³ Prolapsing hemorrhoids represent mucosal prolapse while the muscular wall of the rectum remains in place. They can be distinguished from rectal prolapse in that the tissue prolapses in columns, with grooves identified between the columns, as compared with the concentric folds seen in rectal prolapse. Incarcerated prolapsed hemorrhoids

Fig. 1 Rectal prolapse.

Fig. 2 Rectal prolapse.

Fig. 3 Large edematous rectal prolapse, which is more prone to incarceration.

Fig. 4 Incarcerated prolapsed internal hemorrhoids.

are seen in ►**Fig. 4**. Occasionally, an early prolapse may not be complete circumferentially, but can still be distinguished from hemorrhoids, as it lacks the grooves between the columns of prolapsing tissue. ►**Fig. 5** demonstrates an early rectal prolapse that is prolapsed more in the anterior position. A large mass or polyp within the rectum can lead to rectal intussusception by acting as a lead point, and rarely a prolapsing mass is misidentified as rectal prolapse.

The prolapse can usually be identified in the office. Many patients with rectal prolapse are able to readily reproduce the prolapse when they attempt to do so. If they are unable to prolapse the rectum on the proctology table, enemas can be administered. The patient is then asked to strain on a commode to evacuate the enema and reproduce the prolapse. The patient should then be examined while sitting on the com-

Fig. 5 Early rectal prolapse.

mode to determine the diagnosis. In this era where most patients have ready access to a digital photography device, if a patient is unable to reproduce the prolapse in the clinic setting, an alternative is asking them to take a picture of the prolapse at home. In addition to identifying the rectal prolapse on physical exam, attention should be paid to the pelvic floor in general at the initial physical examination. The strength of the patient's sphincters should be noted, as well as the ability to contract the external sphincters on command. Other conditions including cystocele, enterocele, rectocele, pelvic floor descent, and uterine prolapse should be sought.

Adjunctive Studies

As noted earlier, the diagnosis of rectal prolapse is often made on physical examination alone. However, other tests are often used in the evaluation of a patient with rectal prolapse. These may include colonoscopy, defecography, transit studies, and anal manometry.

The primary role of colonoscopy is to rule out additional colon pathology. Because a mass or polyp can rarely serve as a lead point for rectal prolapse, colonoscopy is indicated to rule this out. Other findings associated with rectal prolapse that may be seen on colonoscopy include rectal ulcer or erythema of the rectum as a result of the chronic prolapse. A solitary rectal ulcer occurs on the anterior rectal wall and is present in 10 to 15% of patients with rectal prolapse.

Conventional defecography is performed by the instillation of radiopaque contrast into the rectum. Barium paste with a consistency similar to stool is generally used. A more thorough study is obtained if contrast is also ingested orally to opacify the small bowel and placed transvaginally. The patient is then asked to defecate while fluoroscopic images are obtained. Defecography can dynamically demonstrate the rectum actively prolapsing. It may also demonstrate other frequently noted abnormalities, such as rectocele, enterocele, internal intussusception, and abnormal pelvic floor descent. Diagnosis of these other pelvic floor conditions is the primary utility of defecography, as they may be corrected at the time of rectal prolapse repair.¹⁴ The finding of intussusception may or may not be clinically significant. This can be a normal variant in asymptomatic patients, but can also cause obstructive defecation, which can lead to increased straining. Full-thickness rectal prolapse begins as an intussusception in the mid rectum, as evidenced on defecography.¹⁵ Whether a patient initially has intussusception as an inciting event that eventually progresses to full-thickness rectal prolapse is not known and is an area of controversy and study.¹⁶ Ninety-two percent of patients with rectal prolapse have abnormal perineal descent.⁶ While defecography may be useful to identify additional pathology, it is at times not particularly sensitive for making the diagnosis. Only 64% of patients with rectal prolapse on physical exam demonstrated the rectal prolapse on defecography.⁶

Magnetic resonance (MR) defecography is used instead of traditional defecography at some centers. This involves the instillation of 300 mL of ultrasound jelly into the rectum. Static imaging is first performed, followed by dynamic

Fig. 6 MR defecography of rectal prolapse, credit to Thapar et al.¹⁸ Normal position at rest (A). During defecation (B–E), there is a rectoanal intussusception which progressively descends and eventually causes a rectal prolapse with mucosal outpouching through the anal verge (open arrow in E).

imaging, during which the patient is asked to strain and then defecate. A proposed advantage of MR defecography over traditional defecography is that it provides additional structural anatomic information, particularly in the imaging of the bladder and vagina. Patients are in the supine position during the study, however, and some may find it difficult to defecate in this position. Traditional defecography remains the gold standard for evaluating defecatory function.¹⁷ ▶ **Figs. 6 and 7** demonstrate the appearance of full-thickness rectal prolapse on MR defecography.

Anal manometry and nerve conduction studies are occasionally performed when evaluating a patient with rectal prolapse. However, the results are more difficult to interpret in the presence of rectal prolapse, and the findings will rarely change surgical planning. They can, however, play a role in the evaluation of concomitant constipation and fecal incontinence. Anal manometry will most often demonstrate decreased resting tone as well as decreased squeeze pressures, with 40% of patients with rectal prolapse demonstrating incompetent sphincters on manometry.¹⁶ While anal manometry and pudendal nerve studies do not directly affect the management of rectal prolapse, they may have some prognostic value.¹⁹ Patients with decreased anal pressures and

Fig. 7 MR defecography of rectal prolapse (Figure courtesy of Mizell and Dr. Roopa Ram, UAMS).

slowed nerve conduction are more likely to have incontinence following repair.²⁰ These studies can also help direct either surgical or medical management of fecal incontinence.

Many patients with rectal prolapse will report chronic constipation, which is often improved following prolapse repair. In those with severe constipation, however, transit studies such as a sitz marker study are indicated to evaluate for colonic inertia. A positive study in which sitz markers remain distributed throughout the colon and do not accumulate in the rectosigmoid may affect surgical decision making, as the colonic inertia can be addressed surgically at the time of repair of rectal prolapse.

Management

The natural progression of patients with prolapse is usually more frequent and progressive enlargement over time to the point of prolapse with just standing. If a patient chooses to delay treatment, the chance of having permanent problems with fecal incontinence increases due to the nerve damage and the anal sphincter being repeatedly stretched out. The period of time over which these changes will occur is widely variable and differs from person to person.²¹

In cases where a patient has modifiable risk factors such as chronic constipation with excessive straining, frequent diarrhea, small prolapse, or when the patient is too sick to undergo an operation, medical management can occasionally be sufficient. The mainstay of medical management involves the use of dietary counseling, fiber intake, and biofeedback. Biofeedback attempts to improve pelvic floor dyssynergia, prevent excess straining, and avoid prolapsing of the rectum. Unfortunately, in patients in whom the rectum readily prolapses, these approaches are often not successful. Biofeedback can also be helpful in the postrepair setting to improve new or recurrent pelvic floor dyssynergia, which may help prevent recurrence of the rectal prolapse. Kegel exercises are also encouraged. Unlike for vaginal prolapse, the use of pessaries does not apply to rectal prolapse.

Cunin et al provides some of the only data reported on the medical management of rectal prolapse.²² They followed up 42 patients who did not undergo surgical repair for varied reasons. Despite a monitored regimen of dietary counseling, bulking agents, and biofeedback, overall continence did not improve over 4 years of follow-up, and that 30% of patients suffered deterioration in their continence scores over this time frame. Quality-of-life scores remained poor throughout this time period, and were significantly worse than the cohort of patients who underwent surgical repair.

In light of the paucity of studies showing the effectiveness of medical therapy and because surgical therapies for rectal prolapse can be performed with low morbidity and mortality, the mainstay of the management of rectal prolapse is surgical correction. The various approaches to repair are discussed in other articles in this volume.

Summary

Rectal prolapse is a disabling condition that greatly interferes with a patient's quality of life. It is more common in women

and the incidence increases with age. Associated symptoms include pain, fecal incontinence, constipation, and rectal bleeding. Rectal prolapse is easily identified on physical examination by those familiar with this condition. While the diagnosis is made based on physical examination alone, all patients should have a recent colonoscopy, and adjunctive studies such as defecography, transit studies, and anal manometry may provide additional information about commonly associated conditions. Medical therapy can be helpful in some cases, but surgical therapy has shown to be the most effective option for definitive treatment.

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