

Anorectal emergencies

Emergências anorretais

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ABSTRACT

The term 'anorectal emergencies' covers a range of disorders that present distressing symptoms for patients, impact quality of life, and sometimes require immediate treatment. Diagnosis should be quick and early, so that the appropriate treatment can be initiated immediately in the emergency room. Many anorectal disorders, such as fissures, fistulas, anal abscesses and hemorrhoids, are diagnosed clinically, and knowledge of the signs, symptoms and forms of presentation of these disorders is thus of fundamental importance. This article aims, therefore, to describe the main anorectal emergencies, including etiology, diagnosis and management, as a guide for clinical conduct in relation to such emergencies.

Keywords: Emergencies; Rectal diseases; Rectal fistula; Fissure in ano; Hemorrhoids

RESUMO

As emergências anorretais englobam diversas patologias que causam sintomatologia incômoda aos pacientes, impactam a qualidade de vida e, por vezes, necessitam de tratamento imediato. O diagnóstico deve ser precoce e ágil, para que o tratamento adequado possa ser instituído ainda na emergência. Muitas das afecções anorretais, a exemplo de fissuras, fístulas, abscessos anais e hemorroidas, possuem diagnóstico clínico, sendo de fundamental importância o conhecimento dos sinais, dos sintomas e das formas de apresentação dessas patologias. O presente artigo teve como objetivo descrever as principais emergências anorretais, incluindo etiologia, diagnóstico e manejo, para guiar a conduta na emergência diante desses cenários clínicos.

Descritores: Emergências; Doenças retais; Fístula retal; Fissura anal; Hemorroidas

INTRODUCTION

Proctology is a specialty that covers treatment of diseases of the colon, rectum, and anus. Anorectal diseases are frequently reported in Emergency Services, and it is thus essential for general physicians to have a good working knowledge of these conditions.

Although anorectal diseases are benign, they may give rise to unpleasant symptoms and negatively impact the quality of life of the patient.

They may also require immediate treatment and this can usually be carried out in the office or during emergency care.¹⁻³

Hemorrhoids, fissures, and anorectal abscesses are examples of conditions that have a significant impact on the lives of patients and that are usually diagnosed during primary or emergency care.⁴ Hemorrhoids, in particular, are especially prevalent in both settings, principally in developed countries.⁵ Diagnosis of anorectal emergencies

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needs to be early, so that adequate treatment can be commenced.¹ The aim of the present review is to describe the main anorectal emergencies, including etiology, diagnosis, and management, so as to provide a guide for conduct in emergencies involving such clinical scenarios.

METHODS

An integrative review was conducted using the PubMed® platform. First, a search was conducted using the keywords “emergency” and “anorectal diseases” combined using the Boolean operator AND. Articles were included if they were reviews published between 2018 and 2023, containing studies involving only human beings, published in English. Articles were excluded if they did not concern proctological emergencies, involved animals, or were published in a language other than English. The authors have no conflicts of interest to declare.

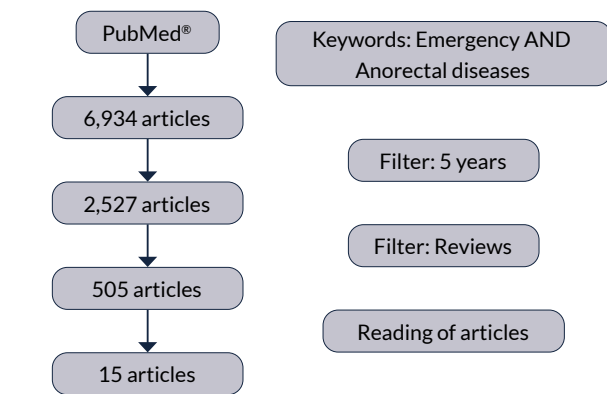
A database search using these keywords produced 6,934 results, which was narrowed down to 2,527 by considering only articles published in the past five years. Filtering for review articles further reduced the number to 505. Examination of the titles of these articles led to 15 being selected for reading and inclusion in the present review (**Figure 1**). The present study was conducted between June and September 2023, on the Santo Amaro campus of the University of Pernambuco.

DISCUSSION

Anal fissure

Anal fissures are defined as breaks in the linear continuity of the skin and anal mucous membrane located below the pectinate line of the anal canal and may or may not be related to local trauma.² Fissures can be classified in relation to time as acute or chronic (when they have persisted for more than 4 to 8 weeks) and as anterior or posterior, with 90% of anal fissures being posterior.⁴

The condition may be caused by forced passing of hardened stool, constipation, local trauma, anorectal sexual intercourse, inflammatory



Source: the authors.

Figure 1. Flowchart of Methodology.

bowel disorder, or surgical procedures, among other causes. Incidence is unknown.^{2,4}

The most widely accepted physio-pathological theory for the emergence of anal fissures involves a sustained increase in the tonus of the internal anal sphincter, leading to the appearance of chronic anal fissures.⁴ Another important feature of the pathogenesis concerns relative ischemia of the anoderm (anal mucous membrane), principally in the posterior portion of the anal canal, owing to a shortage of arterioles in this region,² which would explain the tendency for fissures to appear in this location. Diagnosis is clinical and, unless findings suggest a specific cause, further tests are not necessary.²

Patients with anal fissures present with varying degrees of anal pain, generally upon defecation, and this may also involve bleeding.^{2,4}

Non-pharmacological treatment of anal fissures involves measures such as adoption of a fiber-rich diet, increased water intake, sitz baths, and lidocaine gel to control local pain. These measures should be adopted in cases of acute fissures.^{1,4} Other conservative treatment options include topical agents such as nitroglycerine, calcium channel blockers (CCBs) and botulinum toxin injections. All of these treatments are equally effective, although nitroglycerine is no longer used because it can cause headaches as a side effect.^{1,4} For chronic fissures resistant to conservative treatment, the surgical treatment of choice is internal lateral sphincterotomy. The cure rate, compared to the

other treatments cited, has been shown to range from 88% to 100%.² Surgical treatment gives rise to incontinence in around 8% to 30% of cases, although this tends to be transitory, lasting no more than two months.⁴ Acute fissures should not be treated surgically.¹ For management of atypical anal fissures, the focus should be on identifying the etiology and commencing specific treatment of the underlying pathology.^{1,2}

Anal fistula

An anal fistula is an epithelialized channel connecting the anal canal to the perianal skin and is, in most cases, caused by an anorectal abscess.⁴ Such fistulas can be classified by anatomical site in relation to the anal sphincters, in the categories listed in **table 1** and illustrated in **figure 2**.²

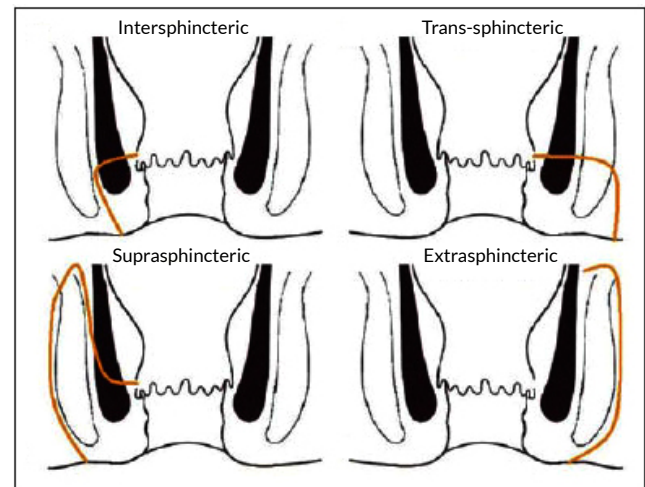
Diagnosis is clinical, with patients typically presenting with purulent or fecal drainage. Multiple orifices and multiple fistulas suggest that the etiology may involve Crohn's disease. Imaging examinations are not usually necessary, but, if the fistula is difficult to characterize, magnetic resonance or endorectal ultrasound are the examinations of choice.⁴

Treatment of anal fistulas is surgical, with fistulotomy being the most commonly used technique, owing to the high success rate, achieving excellent results in 92 to 97% of cases.^{2,4} Fecal incontinence is one possible complication of this approach, and situations such as a history of incontinence, complex fistulas, recurrent disease, and a history of fistula surgery are factors that increase the risk.⁴ Only select cases of anal fistula are treated by fistulectomy, owing to the high incidence of recurrence and fecal incontinence compared to fistulotomy.^{2,4} Other surgical options include mucosal advancement flap, fistulotomy with seton placement (to shorten the fistula tract and facilitate subsequent fistulotomy) and LIFT (ligation of inter-sphincteric fistula tract) for trans-sphincteric fistulas, which is increasingly being used to treat anal fistulas.⁴

Table 1. Anatomical classification of anal fistulas

Intersphincteric	Located between the internal and external anal sphincters, with an opening in the perianal region bordering the anus.
Trans-sphincteric	The trajectory of the fistula traverses the internal and external sphincter, with an opening in the ischiorectal fossa
Suprasphincteric	The trajectory of the fistula begins in the external sphincter, with an opening in the ischiorectal fossa
Extrasphincteric	These are more complex fistulas, traversing the sphincters and the puborectalis muscle, with an opening near the pectinate line or in the lower rectal wall

Source: adapted from Oliveira et al.²



Source: Lima et al.⁶

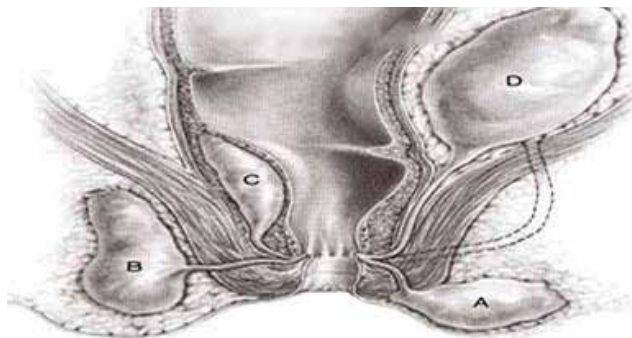
Figure 2. Trajectory of anorectal fissures.

Anorectal abscess

Anorectal abscess is a very common disease of the orifices whose physiopathology is explained by the cryptoglandular theory. According to this theory, abscesses are the result of a process of infection caused by obstruction of the crypt ostium of one or more anorectal glands, leading to an accumulation of septic material.^{2,4} Other possible causes include inflammatory bowel disease, infection, trauma and malignancy, but these account for only 10% of cases.⁴ Abscesses are more common in men, with incidence peaking between the ages of 20 and 40 years, and are associated with anorectal fistulas in around 30 to 70% of cases.⁴

Abscesses can be classified in terms of their location as (perianal) subcutaneous, intersphincteric, ischioanal or (pelvirectal) supralelevator, as illustrated in **figure 3**.² Clinically, anorectal abscesses

present as edema and pain in the region of the abscess, along with signs of inflammation, and may progress to suppuration and fever.^{2,4} In general, image exams are not necessary, but, in some cases (principally supralevator abscesses) these may be requested to aid diagnosis. The examinations of choice are computerized tomography, magnetic resonance, or endorectal ultrasound^{1,2}



Source: Barredo et al.⁷

A: Perianal. B: Ischioanal. C: Intersphincteric. D: Supra-levator

Figure 3. Classification of Anorectal Abscesses.

Anorectal abscesses are treated surgically by way of incision and drainage of the abscess under anesthesia.^{1,2,4} Abscesses are associated with a perianal fistula in around 80% of cases.^{1,2} Treatment with antibiotics should be combined with surgical treatment in immunocompromised patients, in cases of sepsis or cellulitis in tissue circumjacent to the abscess.^{1,4}

Hemorrhoids

Hemorrhoids are clusters of vascular tissue, smooth muscle, and connective tissue in the three columns of the anal canal that serve to maintain fecal continence in healthy individuals. However, the term is also used to characterize the process of the disease.⁸ Hemorrhoids become clinically significant when they increase in size, causing irritation and discomfort in the anal canal and perianal region.⁴ The condition is common, the main risk factor being obesity, and incidence is higher among those aged between 45 and 65 years. Other risk factors include low-fiber diets, straining to lift excessively heavy objects, constipation, and portal hypertension.^{4,8}

Hemorrhoids can be classified as internal or external. External hemorrhoids are innervated by somatic neurons, are located below the pectinate line, and composed of a distal venous plexus covered with squamous epithelial cells. Internal hemorrhoids are located above the pectinate line inside the rectal columns and innervated by the visceral nervous fibers. These can be classified into four different grades as outlined in **Table 2**.⁴

Table 2. Classification of internal hemorrhoids

Grade I	Without rectal prolapse
Grade II	Rectal prolapse on straining to pass stool
Grade III	Prolapse needing to be returned manually
Grade IV	Prolapse will not return into the anus

Source: adapted from Gardner et al.⁴

Diagnosis is essentially clinical, involving a medical history and a thorough physical examination. The most common complaint among patients with this condition is bleeding with no pain, often associated with slight fecal incontinence and irritation of the skin in the region. It is important, however, not to automatically associate bleeding without pain with a diagnosis of hemorrhoids, since malignant conditions may also produce the same symptoms.^{4,8} Anoscopy should be conducted to look for the presence of internal hemorrhoids and identify the pathological process, and, in some cases, colonoscopy should be considered, principally when anoscopy is normal or inconclusive or in the presence of independent risk factors, especially in patients aged over 45 years, to screen for possible malignancies.^{4,9}

Treatment is determined by the stratification of risk and hemorrhoid symptoms, and may include pharmacological treatments, and surgical and non-surgical procedures.⁸

Non-surgical treatment can take various forms. The commonest and best-known procedure is elastic ligation, which can be used for internal hemorrhoids. This technique involves the application of an elastic ligation around the engorged vessel, initiating a process of necrosis in the region, which

transforms into an ulcer and forms a scar within a few weeks. It should be noted that elastic ligation should not be used for hemorrhoids below the pectinate line or external hemorrhoids, owing to the somatic innervation of these, and a surgical approach should be adopted in these cases. The procedure can be carried out in the office without anesthesia, with the aid of an anoscope. One study found a success rate of 80% for cases with rare complications, such as bleeding, in 2.8% of cases, thrombosis of an external hemorrhoid, in 1.5% of cases, and bacteremia, in 0.09%.⁴

Another non-surgical treatment is sclerotherapy, which can be used to treat Grade II and Grade III hemorrhoids and is especially recommended in patients at greater risk of bleeding. This procedure can also be performed in the office without anesthesia, requiring only full visualization of the hemorrhoid using an anoscope. The agent responsible for sclerosis of the vessel may be a hypertonic saline solution or a 5% phenol solution in vegetable oil. It should be noted that, compared to ligation, sclerotherapy is associated with a higher incidence of recurrence, but generally causes less pain following the procedure.⁴

Surgical treatment may be associated with a higher prevalence of pain and complications, but with lower rates of recurrence compared to the previous treatments.⁸ Surgical procedures can be open, such as the Milligan-Morgan technique, or closed, such as the Ferguson technique. They may involve clamping of the hemorrhoids or ligation of the artery responsible for their formation.⁴ These more complex treatment methods requiring care of greater complexity cannot be covered in any great depth in the present study.

Proctitis and sexually transmissible infections

Proctitis is an acute manifestation of inflammation of the rectum, the various risk factors for which include exposure to radiation, inflammatory bowel disease, and also sexually transmitted diseases (STDs).¹⁰

STDs are increasingly prevalent in men, in large part because of an increase in the practice of passive anal intercourse and anal-oral sex.² These diseases are transmitted directly from person to person and mainly affect individuals aged between 15 and 24 years. Men who have sex with men are the segment of the population most likely to be exposed to the disease.¹¹

Proctitis is one of the three gastrointestinal syndromes caused by STDs in men who have sex with men. The symptoms include anorectal pain, rectal bleeding, urgency, incontinence and tenesmus. The other two syndromes are proctocolitis, which is, put simply, proctitis associated with diarrhea and abdominal pain, and enteritis, which is characterized by abdominal pain and diarrhea with no signs of proctitis.^{10,11}

It is important to understand the risk factors associated with transmission of STDs in order to draw up a profile of patients. The main risk factors are¹¹ men who have sex with men; multiple unknown partners; passive penetrative anal sex without use of a condom; presence of other STDs, especially HIV infection; rectal accessories or trauma in the region; and substance abuse.

As this is a very broad group of diseases, we have selected those that are most prevalent among the general population.

Chlamydia trachomatis

Chlamydia trachomatis is the most prevalent sexually transmissible infection in the United States. The classic clinical profile often includes pyuria, dysuria, and urethritis or cervicitis. However, when the rectum is affected, it frequently presents as proctitis, with tenesmus and pain in the region. A definitive diagnosis can be obtained using a real-time polymerase chain reaction test (RT-PCR) for the etiological agent. The ideal treatment involves azithromycin 1g.²

Gonorrhoea

Gonorrhoea, caused by *Neisseria gonorrhoeae* is the second most common STD in the United States.

Most cases are asymptomatic, but may also progress to cervicitis, proctitis, pelvic inflammatory disease in women, and epididymitis. When the disease affects the anorectal region, it may cause tenesmus and hematochezia. Diagnosis can be confirmed by visualization of the bacteria in the oral or rectal mucus, or by urinalysis. Treatment involves a single dose of intramuscular ceftriaxone 250 mg, followed by a single oral dose of azithromycin 2 g.^{2,12}

Syphilis

Syphilis is a disease that is endemic in developing countries, especially among the most vulnerable sectors of the population.² The bacteria responsible is *Treponema pallidum* and infection occurs in a number of phases. The first phase takes the form of a painless ulcer appearing between one and twenty-one days after infection. The second phase may occur weeks or even months after initial infection, and symptoms are less specific, including fever, arthralgia, rectal mass, and rash. If untreated, the latent phase continues, making diagnosis difficult, since this phase is asymptomatic and may last for years or even decades. Tertiary syphilis presents as a generalized infection with possibly irreversible sequelae for the patient. Diagnosis can be carried out using tests such as the Venereal Disease Research Laboratory (VDRL) test or blood (serum) test. Treatment depends on the phase of the disease. A single intramuscular dose of penicillin G benzathine 2.4 million units is used to treat primary syphilis, and the same does once a week for three weeks to treat tertiary syphilis, or when it is not possible to determine the stage of the disease.²

Herpes simplex virus

Infection with the herpes simplex DNA virus presents as genital lesions and proctitis, especially in men who have sex with men. The lesions typically take the form of bubbles in the mucous with symptoms appearing 4 to 21 days after sexual intercourse. A definitive diagnosis can only be

established using RT-PCR, but a physical examination is, in most cases, sufficient for diagnosis. Treatment can be carried out using oral antiretroviral drugs, such as acyclovir. In cases involving severe or neurological symptoms, the patient may need to be admitted to hospital for intravenous administration of drugs.²

HIV

HIV is an RNA virus that affects TCD4 lymphocytes. Anal manifestations include ulcers, hemorrhoids, fissures, abscesses, and other conditions related to coinfections and other STDs. In patients who are already immunocompromised with acquired immunodeficiency syndrome, other etiologies may occur, such as anal spinocellular carcinoma, lymphoma, or Kaposi's sarcoma.²

Human papillomavirus

Also called condyloma acuminatum, the lesions caused by the human papillomavirus (HPV) are the most common form of STD for all types of sexual orientation. At present, various subtypes are catalogued as forming part of the HPV family, with subtypes 6 and 11 being responsible for the typical cauliflower-type lesions in the anal, genital or rectal region. Other subtypes, such as 16 and 18, are associated with tissue dysplasia and constitute a risk factor for the development of cancer. They may present as small cauliflower-shaped growths accompanied by itching, pain, and sometimes bleeding. Diagnosis is usually clinical, involving anoscopy, which enables visualization of lesions and detection of dysplasia using acetic acid. A biopsy of the lesion may be carried out in cases of doubt as to the correct diagnosis and suspicion of malignancy. Treatment may take various forms, including topical medication, excision of lesions and cryotherapy, although recurrence rates vary from 4 to 26%.²

FINAL CONSIDERATIONS

Anorectal emergencies are common and form part of a spectrum of diseases that cause physical and

mental discomfort. Despite the high prevalence of such conditions, many patients delay seeking medical assistance¹³. It is therefore necessary that the physician adopt a proactive approach when investigating the many other complaints that may affect the anorectal region, including hemorrhoids, abscesses, and STDs. While most conditions are easily diagnosed by way of a suitably thorough physical examination, it is of the utmost importance that physicians be alert to signs of serious illness that will require more complex investigation or intervention.^{1,8,10} There is therefore a need for anorectal emergencies to be identified and for effective treatment to be initiated as soon as possible, during primary care.

REFERÊNCIAS

1. Tarasconi A, Perrone G, Davies J, Coimbra R, Moore E, Azzaroli F, et al. Anorectal emergencies: WSES-AAST guidelines. *World J Emerg Surg.* 2021;16(1):48.
2. Oliveira L, Galindo GF, Silva-Velazco JD. Benign anorectal disorder management in low-resource settings. *Clin Colon Rectal Surg.* 2022;35(5):376-89.
3. Drezdron MK, Peterson CY. Anorectal Emergencies. *Surg Clin North Am.* 2023;103(6):1153-70.
4. Gardner IH, Siddharthan RV, Tsikitis VL. Benign anorectal disease: hemorrhoids, fissures, and fistulas. *Ann Gastroenterol.* 2020;33(1):9-18.
5. Gallo G, Martellucci J, Sturiale A, Clerico G, Milito G, Marino F, et al. Consensus statement of the Italian society of colorectal surgery (SICCR): management and treatment of hemorrhoidal disease. *Tech Coloproctol.* 2020;24(2):145-64.
6. Lima CM, Junqueira FP, Rodrigues MC, Gutierrez CA, Domingues RC, Coutinho Júnior AC, et al. Avaliação por ressonância magnética das fístulas perianais: ensaio iconográfico. *Radiol Brasil.* 2010;43:330-5.
7. Barredo C, Leiro F. Abscesos y fístulas perianales. *Cirugía Digestiva.* 2009;379:1-11.
8. Sandler RS, Peery AF. Rethinking what we know about hemorrhoids. *Clin Gastroenterol Hepatol.* 2019;17(1):8-15.
9. Dornblaser DW, Gross SA. Safe, efficient, and effective screening colonoscopy. *Curr Opin Gastroenterol.* 2022;38(5):430-5.
10. Al Mulhim AA, Schulwolf SL, McFadden KM, Shokoohi H. Transperineal ultrasound in the diagnosis of proctitis in the emergency department. *J Emerg Med.* 2021;60(5):e119-24.
11. Steed JM, Henry-Okafor Q, Pitts CJ. Proctitis in men who have sex with men. *Nurs Clin North Am.* 2020;55(3):325-35.
12. Jaspers V, Stordeur S, Berghe WV, Mokrane S, Libois A, Kenyon C, et al. Diagnosis and treatment of gonorrhoea: 2019 Belgian National guideline for primary care. *Acta Clinica Belgica.* 2022;77(1):186-94.
13. Keum N, Giovannucci E. Global burden of colorectal cancer: emerging trends, risk factors and prevention strategies. *Nat Rev Gastroenterol Hepatol.* 2019;16(12):713-32.