

# Extraperitoneal suppuration as a complication of an ischiorectal abscess. Case report

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## ABSTRACT

*Exceptionally, deep anorectal abscesses may extend into the extraperitoneal space. Given the non-specific and non-guiding clinical symptoms, the delay in diagnosis can lead to serious septic conditions.*

*We present a patient with extraperitoneal suppuration secondary to a deep anorectal abscess, which required a classic combined perianal and extraperitoneal abdominal surgical approach.*

*Despite its low frequency, anorectal abscesses with extension to the supralelevator and extraperitoneal space should be considered as a differential diagnosis in patients with abdominal pain or sepsis. Antibiotic therapy and adequate surgical drainage are the mainstays of treatment.*

**Keywords:** Ischiorectal Abscess; Deep Anorectal Abscess; Supralelevator Abscess; Extraperitoneal Suppuration

## INTRODUCTION

Deep anorectal abscesses can have infrequent clinical presentations, with dissemination of the infectious process to atypical places such as the extraperitoneal space. In these cases, symptoms are nonspecific and provide little guidance, and delay in diagnosis can lead to serious septic conditions.

## CASE

A 52-year-old male patient, appendectomized, obese, hypertensive and diabetic, consulted in the emergency department due to a 48-hour history of hypogastric right iliac fossa (RIF) pain and a fever of 39° C. He did not present alterations of the digestive or urinary function, nor general repercussion. The week prior to admission he had presented acute anal pain for which he did not consult. He denied anoperineal trauma. He was lucid, eupneic, tachycardic, hemodynamically stable, normotensive, febrile, and hyperglycemic. He presented abdominal pain with guarding in the hypogastrium and RIF, without crepitations or tumors. He showed pain on digital rectal examination on the right aspect of the anorectum, without tumors.

Laboratory tests showed leukocytosis with neutrophilia and elevated C-reactive protein. Computed tomography (CT) of the abdomen and pelvis showed gas at the right perianal space extending through the right supralelevator space into the spaces of Bogros and Retzius. There was no evidence of free fluid or collections (Fig. 1).

Supportive medical treatment and empirical antibiotic therapy were started, and combined exploration of the

perianal and extraperitoneal space was performed in the operating room. The patient was placed in the gynecological position. Visual examination of the perianal region showed no abnormalities. A fine-needle puncture was performed through the perianal skin on the right side guided by the tomographic image, obtaining pus that was sent for culture. Drainage of the abscess was completed through a right perianal incision, identifying the abscess cavity that occupied the ischiorectal fossa and seemed to extend above the levator ani muscle, leaving a drain. Subsequently, an approach to the extraperitoneal space was made through a median incision, without approaching the peritoneal cavity. Suppuration was found in the prevesical space extending towards the RIF, the right flank (RF) and downwards, communicating with the right supralelevator space. After lavage and suctioning, the skin was closed leaving a drain directed into the supralelevator space.

At 48 h, she added cellulitis in RIF and RF, tachycardia, impaired renal function, and coagulopathy (Fig. 2). Complementary drainage was performed using an extraperitoneal flank approach in the operating room, evacuating the suppuration and placing a new drain.

Good evolution and discharge 15 days after admission. During follow-up she completed evaluation studies for her perianal disease, identifying the fistulous tract and internal orifice. The treatment was performed in two stages, with a transsphincteric seton and subsequent fistulotomy. Good evolution, without recurrence or incontinence.

## DISCUSSION

Perianal abscesses and fistulas are mostly benign diseases of cryptoglandular origin. They are one of the most frequent reasons for consultation in surgery and emergency services. They usually determine a localized disease in the perianal region. Although the sequelae of the disea-

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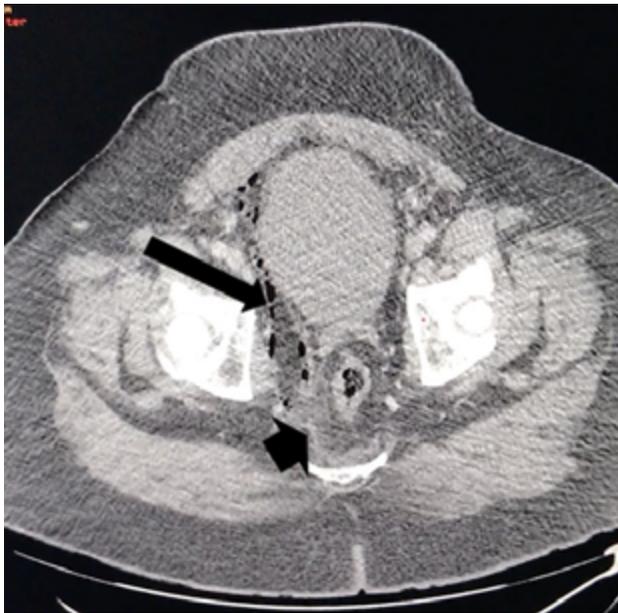


Figure 1: Tomographic section of the minor pelvis. Gas is observed extending through the extraperitoneal space towards the right lateral sector (arrow), with alteration of the fat in the right supralelevator space (arrowhead).



Figure 2: Progression of cellulitis on the right flank that exceeds the area initially marked.

se and those derived from its treatments can impair quality of life, they rarely cause serious complications with the risk of death. Upward extension of suppuration into the supralelevator and extraperitoneal space is rare, and its clinical presentation provides little guidance. This determines a diagnostic difficulty with the consequent delay in treatment and increased morbidity and mortality.<sup>1,2</sup>

Anorectal abscesses are classified as perianal, ischio-rectal, intersphincteric, and supralelevator. Most are located below the puborectalis muscle, which acts as a barrier that prevents the cephalad extension of the abscesses. But, if not treated early, an anorectal abscess can spread to the supralelevator space. Its reported incidence in different series is 1-9%. Life-threatening spread of a deep perianal abscess into the retroperitoneum is extremely rare, with

sporadic cases reported.<sup>3</sup> This spread of infection into the perianal region underscores the complexity of the anatomic planes and connections of the retroperitoneal and extraperitoneal spaces. Anatomically, the supralelevator space is the pelvic compartment above the levator ani muscle that communicates anteriorly with the space of Retzius, laterally with the space of Bogros, and posteriorly with the infrarenal retroperitoneal space. Therefore, infection can spread directly through these compartments.<sup>1,2,4</sup> Surgeons' familiarity with these spaces and their communications is essential for early diagnosis and treatment of these complex infections.<sup>4</sup>

Suppuration in these spaces does not cause the classic local symptoms, such as a painful perianal mass, discharge, and fever. Extraperitoneal infections are paucisymptomatic due to the deep topography of the infection and the fact that the inflammatory response of the retroperitoneum is considerably more limited than that of the peritoneum to infection. They may have latent symptoms, such as nonspecific pelvic pain, constipation, difficulty urinating, and fever. Diagnosis becomes even more complex because the most common causes of retroperitoneal infections include kidney infections, osteomyelitis, colorectal carcinoma, diverticulitis, Crohn's disease, pancreatitis, and appendicitis.<sup>3</sup> Therefore, imaging studies are essential for the diagnosis of these patients. CT is a useful tool for the evaluation of the retroperitoneal region, showing the alteration of the extraperitoneal anatomical planes, identifying changes in fat density and the presence of gas, signs of infection. It also helps to rule out differential diagnoses.<sup>1</sup> Magnetic resonance imaging (MRI) is also useful, especially in the evaluation of the perianal and perirectal region, identifying the topography of the abscess and the presence of fistulous tracts.<sup>5</sup> The therapeutic approach admits different modalities and involves the treatment of anorectal suppuration and extraperitoneal infection. The variety of therapeutic options may be due to the fact that there are few published cases. Treatment of anorectal abscess is classically performed with surgical drainage through the perianal skin or the rectal wall, depending on the topography of the abscess. If fistulous tracts are found, a drainage seton should be left to control suppuration.<sup>1</sup> Although there are reports of percutaneous drainage of supralelevator abscesses, the gold standard is surgical drainage and debridement. This is because suppuration from the extraperitoneal space is usually diffuse rather than a defined collection. Some authors exclusively perform drainage of the supralelevator space through an incision in the perianal skin, crossing the ischio-rectal fossa and reaching the supralelevator space through the levator ani muscle. However, when the suppuration is extensive, as in the case presented, a complementary extraperitoneal

approach is recommended.

Various approaches have been proposed, either through an infraumbilical median incision or an extraperitoneal approach to the flanks. In both cases, opening of the peritoneum should be avoided due to the risk of secondary peritonitis, and these abscesses should not be drained through the peritoneal cavity.<sup>2,3</sup>

Okuda et al.<sup>3</sup> used an extraperitoneal approach through an infraumbilical median incision. This has the advantage of draining the retroperitoneal space bilaterally if necessary and easily accessing the space of Retzius and the supralelevator space.

In this case, given the extent of the suppuration towards

the RIF and RF and the compromised general condition, combined treatment was performed.

## CONCLUSION

Despite its low frequency, we believe that anorectal abscesses with extension to the supralelevator and extraperitoneal space should be considered as a differential diagnosis in patients with abdominal pain or sepsis.

Correction of dysfunctions, CT diagnosis, antibiotic therapy and adequate surgical drainage are the fundamental pillars of treatment.

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## COMMENT

We present the case of a patient with an infrequent evolution of an anorectal abscess. This implies a difficulty in its diagnosis, which can delay the start of treatment and/or the decision for surgery, worsening the prognosis of a life-threatening condition.

On this occasion, the patient presented three characteristics that are usually observed in these patients: male sex, diabetes and obesity. The decisions of the treating team were correct and allowed an adequate evolution. It is worth mentioning the importance of approaching perianally and extraperitoneally and being very careful in follow-up, since the need for a new surgical drainage is common, as it was in this case.

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