

## A Rare Case of a Perirectal Horseshoe Abscess

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### Abstract

Anorectal abscesses are common, painful infections of the small anal crypt glands that can expand into the ischiorectal and supra levator spaces. There are approximately 100,000 cases of anorectal infections per year in the United States, mostly affecting people between the ages of 20 to 60, with men affected twice as much compared to women. Retroperitoneal abscesses follow a more silent course causing diagnosis to be delayed. Horseshoe abscesses are one of the more complex, retroperitoneal, subtypes of anorectal abscesses, making up about 15%-20% of anorectal abscesses. They form posterior to the anal canal and coccyx, with the pelvic floor superior, and anococcygeal ligament inferior; this space connects with the ischiorectal fossae. Due to this deep posterior location, spread of the abscess continues laterally, either unilaterally or bilaterally, into the ischio anal fossa forming a "horseshoe". Commonly misdiagnosed as hemorrhoids, anorectal abscesses require urgent surgical and antibiotic intervention to prevent debilitating spread of infections.

**Keywords:** Perirectal; Perianal; Anorectal abscess; Horseshoe abscess

### Introduction

Anorectal abscesses are common, painful infections of the small anal crypt glands that can expand into the ischiorectal and supra levator spaces [1]. There are approximately 100,000 cases of anorectal infections per year in the United States, mostly affecting people between the ages of 20 to 60, with men affected twice as much compared to women [1]. Retroperitoneal abscesses follow a more silent course causing diagnosis to be delayed [2]. Horseshoe abscesses are one of the more complex, retroperitoneal, subtypes of anorectal abscesses, making up about 15%-20% of anorectal abscesses [3].

### Case History

This case report describes a 39 year old female with no significant past medical history who arrived at the hospital complaining

of progressive perirectal pain for seven days, which had been previously diagnosed as hemorrhoids. The patient described the pain as throbbing, non-radiating, decreasing when lying down, and worsening when moving and sitting up. She rated the pain as "10" (most severe) on a 10 point pain scale and reported the pain precluded daily activities. The patient denied fever, weakness, constipation, rectal bleeding, discharge, rectal/anal surgery, fistula in-ano, anal sex/sex toy usage, history of pregnancy, and sexually transmitted diseases. She admitted weight change, anemia, and bleeding per rectum. Physical exam identified a skin tag at the 2 o'clock position (right perianal region) and an abscess, which was palpated with no fluctuance. A rectal sweep could not be completed because of the patient's severe tenderness in the suprapubic and perianal region.

A CT scan revealed a U shaped, 7 × 3 × 2 cm rim enhancing abscess along the posterior half of the perianal region with thickening adjacent to the levator ani muscles bilaterally, consistent with a horseshoe abscess. The patient was administered metronidazole and ceftriaxone and admitted for surgery (Figure 1).



Figure 1 CT scan

With the left index finger in the rectum, the surgeon inserted a 10 mL syringe with an 18 gauge spinal needle into the ischiorectal fossa to the left and right of the rectum and made bilateral incisions at the 3 and 9 o'clock positions in the perirectal area where purulent drainage was obtained and sent for culture (later

found to grow *E. coli*, *S. viridans*, *P. loeschii*). The area was then irrigated with saline and peroxide. A Penrose drain was inserted, emanating from both incisions, and packed with 1" Iodoform. This was covered with dry sterile dressings.

The patient reported decreases in pain, drainage and constipation following surgery. She began a course of Amoxicillin clavulonate for enteric (gram negative, anaerobic, streptococcus) pathogens. The drain was removed three days post op, and the patient's white cell count decreased to normal levels. The patient was discharged and advised to keep the wound dry and clean and avoid excessive wiping at the surgical site.

## Discussion

Anorectal abscesses are painful infections of the anal crypt glands. As these glands become obstructed, they collect pus in the areas surrounding the affected tissue and the ischioanal and supralelevator spaces [1]. Risk factors include colitis, colorectal cancer, retroperitoneal appendicitis, inflammatory bowel disease, diabetes, diverticulitis, pelvic inflammatory disease, anal sex, and certain medications (e.g., prednisone) [2,4].

Perianal and perirectal abscesses can present with extreme localized tenderness and generalized pain symptoms in the abdomen, flank, and groin. In rare cases, there is no pain or decreasing pain coinciding with spontaneous drainage [2]. Superficial abscesses are palpable, erythematous, tender masses, which can be diagnosed on physical exam, whereas, retroperitoneal abscesses, such as the horseshoe abscesses, often require imaging (CT or MRI) to identify [2].

Horseshoe abscesses are complex retroperitoneal abscesses,

accounting for only 15%-20% of all anorectal abscesses [3]. Because they form deeply and posteriorly to the anal canal, they spread laterally into the ischioanal fossa forming a "horseshoe" [3]. Untreated, these abscesses can suppurate and form a fistula, requiring fistulotomy [4]. Prompt surgical drainage and antibiotics prevent the spread of infection and the likelihood of recurrence.

## Conclusion

Primary care settings are often the first point of contact for patients with anorectal abscesses; therefore, providers should be knowledgeable of this condition and understand its need for prompt surgical intervention. Though relatively rare (especially in younger patients), anorectal abscesses should be considered as a differential diagnosis for all patients who present with fever/fatigue and discomfort in the anal region.

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