

# Recurrent Appendicular Abscess-An Interesting Case Report

Udipta Ray<sup>1\*</sup>, Dipayan Sen<sup>2</sup>

<sup>1</sup>Senior Consultant and Head, Department of General and GI Surgery, Medica Super speciality Hospital, Kolkata, West Bengal, India

<sup>2</sup>Senior Resident, Department of General Surgery, Chandannagar SD Hospital, Hooghly, West Bengal, India

\*Address for Correspondence: Dr. Udipta Ray, Department of General and GI Surgery, Medica Superspecialty Hospital, Kolkata, West Bengal, India

E-mail: [udiptaray@rediffmail.com](mailto:udiptaray@rediffmail.com)

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## ABSTRACT

**Background:** Anorectal abscess, a common surgical condition, can rarely spread upwards to involve complex anatomical compartments leading to sepsis. A 45-year-old diabetic male presented in the ER with complaints of recurrent Right Iliac Fossa (RIF) pain with local swelling and dysuria, along with high-grade fever with chills and rigour for the last few days. He had been diagnosed with a case of recurrent appendicular abscess and treated with repeated Incision & Drainage during three previous hospitalisations. He also complained of simultaneous painful swelling in the left gluteal region during every episode of RIF pain.

**Methods:** On examination, there was a parietal fluctuant swelling and tenderness in RIF over the previous appendectomy scar. On Digital Rectal Examination (DRE), there was left-sided fullness and a tender induration at the 6 o'clock position on the dentate line, indicating some crypto-glandular disease. At the bedside, incision and drainage at RIF were performed, and pus was sent for C/S which came positive for an ESBL-producing strain of *Escherichia coli*. He was provisionally diagnosed with a case of the parietal abscess.

**Results:** CECT W/A showed features of necrotizing fasciitis involving the anterior abdominal wall, forming an abscess, which crossed the midline along the pre-vesical space, extending to the pelvis and left ischio-anal fossa. Thus, the primary source of sepsis was a complex Ano-Rectal Abscess. Appropriate surgical management was done for source control.

**Conclusion:** Unusual sources of infection should be suspected in patients with persistent sepsis or recurrent abscess and appropriate imaging modalities should be utilised before surgical intervention.

**Key-words:** Complex Ano-rectal Abscess, Parietal Abscess, Persistent sepsis, Recurrent Appendicular abscess, Recurrent RIF Pain

## INTRODUCTION

Acute appendicitis is a common surgical condition with a lifetime risk of 7–8% <sup>[1]</sup>. Worldwide, it is the most common cause of emergency surgery. The clinical presentation ranges from acute inflammation to abscess and perforation. The standard of management has shifted from open surgery to laparoscopic appendectomy, which can be now performed with minimal morbidity and mortality <sup>[2]</sup>. Appendicular perforation spreading into the retroperitoneum may present as a psoas abscess, or right perinephric abscess and also spread to the groin and thigh <sup>[3,4]</sup>.

Appendicular abscess leading to anterior abdominal wall abscess or causing necrotizing fasciitis is an exceedingly uncommon entity and the literature review revealed only a few cases reports in the English language reporting such a clinical situation <sup>[5-10]</sup>.

But rarely another source of infection may cause a parietal abscess in the Right Iliac Fossa and masquerade as an Appendicular abscess. Here we present such a case where an anorectal abscess presented as a parietal abscess at RIF.

## CASE PRESENTATION

Our patient is a 45 yr old male, who presented in the Emergency (ER) with complaints of Right Iliac Fossa (RIF) pain with mild local swelling and dysuria for the last few days, along with high-grade fever with chills and rigour for the same duration. He also complained of simultaneous painful swelling in the left gluteal region during every episode of RIF pain. He is a k/c/o T2DM,

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right-sided nephrolithiasis and has a history of appendectomy. He had been diagnosed with a case of recurrent appendicular abscess and treated with repeated incision and drainage during three previous hospitalisations at other centres. He is allergic to sulphonamides, phenylbutazone class of drugs, phenobarbitone and saridon.

On admission, he was dehydrated, tachycardic (HR 128 b/min), BP 110/70mmHg, RR 24/min, CBG 241 mg/dl, Temp 102.3° F, SpO<sub>2</sub> 95% in RA. Higher functions were WNL, and chest B/L clear.

On examination, there was a parietal swelling and tenderness in RIF over the previous appendectomy scar.

On DRE, there was left-sided fullness and a tender induration at the 6 o'clock position on the dentate line, indicating some crypto-glandular disease.

With this background, he was provisionally diagnosed as a case of right iliac fossa parietal abscess in a diabetic male with right-sided nephrolithiasis.

At the bedside, after confirmation of purulent material by aspirating with a wide bore needle, a small incision was made with no 11 blade and approx 1L of purulent material drained and the specimen was sent for C/S and Aerobic culture (Fig. 1).



**Fig. 1:** Abscess cavity at RIF after drainage of Pus

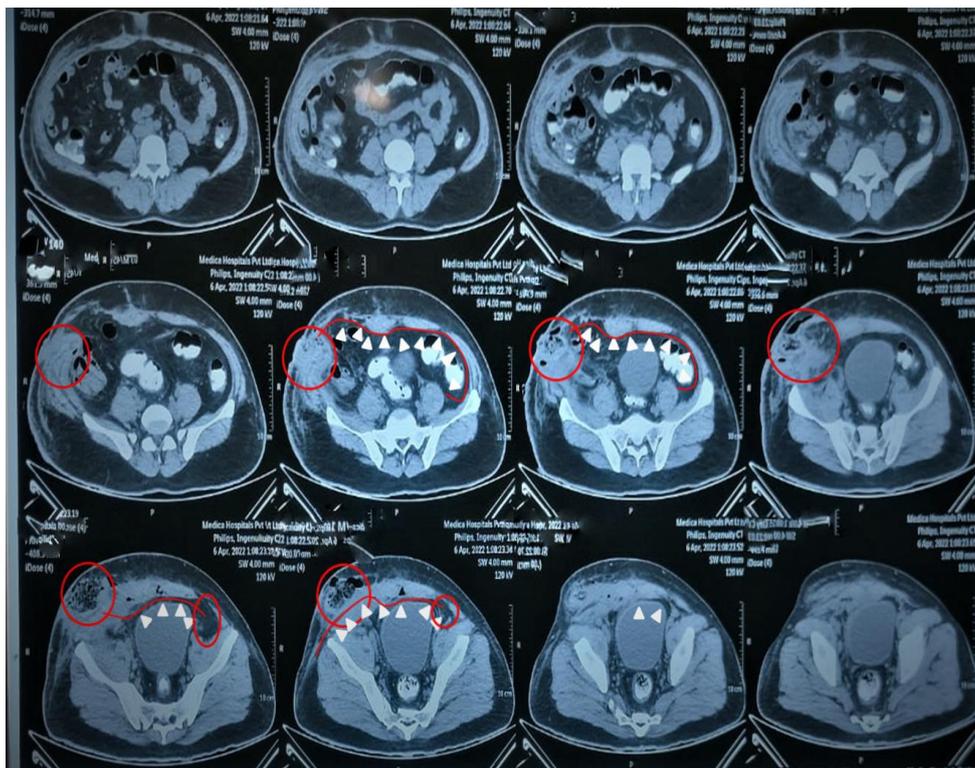
He was started on empirical injectable antibiotics Linezolid and Clindamycin. The culture report showed an ESBL-producing strain of *E. coli*, sensitive to Meropenem and Tigecycline, and antibiotics were changed accordingly.

Urine R/E showed RBCs 26-50/HPF and pus cells 16-25/HPF with granular casts present. Hb: 9.8 gm/dL, TC: 18190 (N 94 L 05), CRP: 325.03 mg/L, Ur: 87 mg/dL, Cr: 2.2 mg/dL.

USG KUB showed staghorn calculus in the lower pole of the right kidney, a simple cyst in the interpolar region of the left kidney and extensive inflammatory changes in RIF & lower abdomen.

CECT W/A showed a right infraumbilical Spigelian hernia containing omentum and distal ileum with diffuse inflammatory oedema in the hernia sac; features of necrotising fasciitis involving the anterior abdominal wall, forming an abscess which crossed the midline through the pre-vesical space, extending to the pelvis, left ischio-anal fossa, perineum and left gluteal fat; hepatosplenomegaly (Fig. 2).

Subsequently, incision and drainage (I & D) and major debridement with deroofting of the left-sided ischio-anal abscess with Seton placement for the accompanying fistulous tract was done under spinal anaesthesia (Fig. 3). The wound was left open to heal by secondary intention.



**Fig. 2:** CECT W/A plate showing areas of air pockets in the subcutaneous plane and visible abscess tract through the pre-vesical space, crossing the midline



**Fig. 3:** Open Wound after I & D of Left Ischio-Anal Abscess

## DISCUSSION

Anorectal abscesses are usually caused by infections arising in the cryptoglandular epithelium lining the anal canal. Anorectal abscess spreading to the retroperitoneal space or parietal locations to form a secondary abscess is a rare clinical entity. This may cause a delay in diagnosis, is challenging to treat and thus may result in a poor outcome.

A retrospective review of 50 extraperitoneal abscess cases published by Crepps *et al.* [11] showed that extraperitoneal infections may be secondary to some occult primary source and as such, may need a high

degree of suspicion for early detection after hospital admission. Patients initially have insidious clinical manifestations and often present with non-specific constitutional symptoms such as fatigue, nausea, and fever [12].

Considering the anatomy of Ano-Rectal abscesses, they are usually restricted below the puborectalis muscle. However, delay in appropriate management, especially in immunocompromised patients can cause the abscess to spread to the supra levator compartment [13]. This disseminated spread of purulent organisms may lead to

necrotizing fasciitis and may even prove to be fatal in certain situations <sup>[14,15]</sup>.

Meta-analysis of multiple studies has shown that the incidence of supra levator abscess is about 0–7.5% <sup>[16-19]</sup>. Amongst these, only in extremely rare cases, it was found that the retroperitoneal or parietal abscess was a consequence of the potentially lethal spread of the infective organisms from an anorectal abscess. Reports of such cases have been only sporadic <sup>[13,20]</sup>.

A case, quite similar to our patient, has been reported by <sup>[21]</sup> in 2016. Their patient presented with an extensive abdominal wall abscess, but its primary source was an ischio-rectal abscess. The patient was treated with multiple stab incisions and Darlington and Anitha had an uneventful recovery. Another similar case report has been published by Hamza *et al.* <sup>[22]</sup>

With the evidence in hand for our patient, it appeared that the left ischio-anal abscess was the primary source of infection which spread in the supra-levator space and resulted in necrotizing fasciitis of the lower abdominal wall and RIF. Since the patient had a history of appendicectomy, the abscess was misdiagnosed as an appendicular abscess during previous hospitalizations at other centres and repeated I & D was done. Hence, we received the patient referred to us as a case of “recurrent appendicular abscess”.

## CONCLUSIONS

Features of frank peritonitis are not always associated with Extraperitoneal abscess. So, the presence of an occult primary source of infection or some widespread systemic septic focus may be easily overlooked unless a high degree of suspicion reminds us to include that as a differential diagnosis in a patient with ongoing sepsis and atypical or inconsistent clinical presentations. Early recognition of the primary source of sepsis and aggressive management for source control, is essential to save the patient from severe complications, thus preventing further morbidity and mortality. Therefore, taking a detailed clinical history and using appropriate imaging modalities before any surgical intervention must be made into a routine and essential practice for patients with unusual clinical features associated with an abscess.

## CONTRIBUTION OF AUTHORS

**Research concept-** Dr. Udipta Ray

**Research design-** Dr. Udipta Ray

**Supervision-** Dr. Udipta Ray

**Materials-** Dr. Udipta Ray

**Data collection-** Dr. Dipayan Sen

**Data analysis and Interpretation-** Dr. Dipayan Sen

**Literature search-** Dr. Dipayan Sen

**Writing article-** Dr. Dipayan Sen

**Critical review-** Dr. Udipta Ray

**Article editing-** Dr. Dipayan Sen

**Final approval-** Dr. Udipta Ray

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