Case Report

DOI: 10.7860/JCDR/2024/68489.19448

Retroperitoneal Abscess as an Extension of Ischiorectal Abscess: A Rare Case Report

Surgery Section

DAKSHAYANI SATISH NIRHALE[1], MAHENDRA WANTE[2], VAISHNAVI REDDY[3]

ABSTRACT

Infections of the retroperitoneum can result from primary haematogenous spread of microbes or secondary infections originating from the retroperitoneal area or nearby organs. These abscesses can be caused by a perforated retrocaecal appendix, diverticulitis, perforated duodenal ulcers, iatrogenic gastrointestinal tract perforations, pancreatic cancer, inflammatory bowel diseases, genitourinary extravasation due to obstruction, osteomyelitis, postoperative duodenal ulcer perforations, and infections related to pelvic and puerperal conditions, as well as trauma. However, the occurrence of a retroperitoneal abscess as an extension of an ischiorectal abscess is exceedingly rare. Hereby, the authors present a case report of 27-year-old male who presented with persistent lower right quadrant abdominal pain, high-grade fever, and pus discharge from the perianal region for the last five days. He experienced difficulty passing stools and flatus for three days. Contrast-enhanced Computed Tomography (CECT) revealed a perforated appendix with fluid collection in the preperitoneal space on the right-side. Surgery revealed a significant amount of purulent discharge below the rectus muscle, extending along the right abdomen to the psoas muscle and connecting with the ischiorectal fossa. Retroperitoneal abscesses can originate from the perianal or ischiorectal region through various anatomical spaces.

Keywords: Anorectal abscess, Ischiorectal fossa, Perianal, Retroperitoneal infections, Retroperitoneal spread

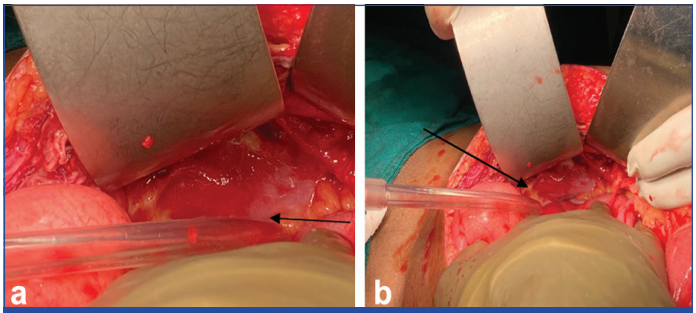
CASE REPORT

A 27-year-old male patient sought medical attention at the Surgical Outpatient Department of Dr. D. Y. Patil Medical College and Research Centre, located in Pimpri, Pune, Maharashtra, India. He presented with chief complaints of abdominal pain since 5 days and an inability to pass stools for the last 3 days. The history of presenting illness suggested pain in the abdomen in the right lower quadrant, which had been ongoing for the past five days, a colicky type of pain radiating to the umbilicus, aggravated by hip flexion. The patient also reported an inability to pass stools for the last three days, coupled with a history of abdominal distension. Furthermore, he had experienced a high-grade fever with chills for the past four days. He had no co-morbidities or significant family history, and he didn't have any allergies to medications in the past. Upon examination, the patient had a temperature of 102°F on admission and displayed tachycardia with a pulse rate of 110/min and a blood pressure of 110/60 mmHg. Physical examination revealed abdominal distension, tenderness in the right iliac fossa with no guarding or rigidity. Bowel sounds were detected in all four quadrants, and there were no signs of fistulas, sinuses, or fissures, with normal sphincter tone. Further evaluation included laboratory testing, which revealed evidence of leukocytosis with a total leukocyte count of 19,000, with all other blood parameters being unremarkable.

A Computed Tomography scan of the abdomen and pelvis indicated a perforated appendix near its tip, with a collection of fluid in the preperitoneal space on the right-side [Table/Fig-1], adjacent to the liver along the right anterolateral aspect of the abdomen, extending up to the level of the right iliac fossa. Subsequently, the patient underwent surgery for acute appendicitis with perforation peritonitis under spinal anaesthesia. A midline laparotomy incision was made and dissected through the layers. Approximately 150 mL of foul-smelling, purulent discharge was observed originating from the retrorectal plane [Table/Fig-2a,b] and extending up to the psoas muscle, with pus flakes adhering to the muscle. The pus was aspirated and sent to the microbiology laboratory for culture and sensitivity testing, which had no bacterial growth.

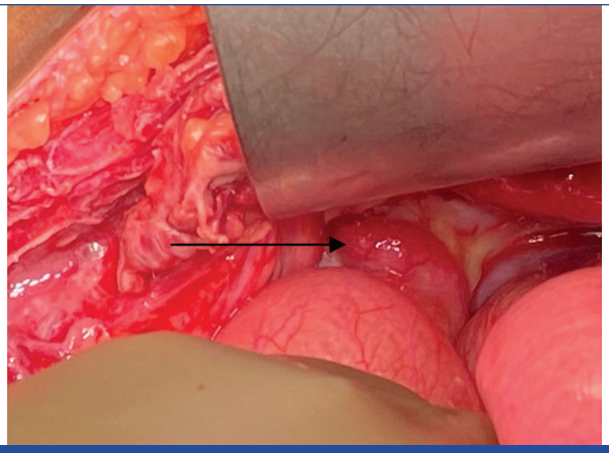
The peritoneum was then opened, revealing the appendix, which showed no signs of inflammation [Table/Fig-3]. The peritoneum was

[Table/Fig-1]: Contrast-enhanced CT scan revealed a perforated appendix near its tip with a collection of fluid in the preperitoneal space on the right-side, adjacent to the liver and extending along the right anterolateral abdomen upto the level of the right iliac fossa.



[Table/Fig-2a,b]: Frank pus found in retrorectal plane. A 150 mL of pus was aspirated from muscular plane following midline incision.

devoid of pus flakes, and a warm saline wash was administered. An abdominal drain was placed in the retro-rectus plane. After the closure of the abdomen in layers, the patient was positioned in the lithotomy stance, and a linear incision was made over the most prominent part of the swelling, from which frank purulent discharge was aspirated. The abscess cavity extended from the ischiorectal fossa upward. Hence, a final diagnosis of retroperitoneal abscess was made. Broad-spectrum antimicrobial therapy was initiated as the culture report suggested no bacterial growth. The patient was started on Injection Ciprofloxacin 500 mg and Injection Metronidazole 500 mg thrice daily with adequate analgesia for a total duration of seven days. The patient was discharged after a 10-day postoperative period. On follow-up after two weeks, the patient presented with a healthy wound in the perianal region with granulation tissue and a healed suture line.



[Table/Fig-3]: Appendix appeared normal, no signs of inflammation.

DISCUSSION

Anorectal abscesses and related pathologies are among the most commonly encountered surgical issues in contemporary medical practice. They are often associated with immunocompromised conditions such as diabetes mellitus, chronic alcohol consumption, Crohn's disease, and hidradenitis suppurativa, among others. The most widely accepted theory regarding their pathophysiology is the cryptoglandular theory, which suggests that the blockage and subsequent infection of anal crypts are the underlying causes of abscess formation. If left untreated, these abscesses can extend along various anatomical planes. Anorectal abscesses are categorised based on their location and are typically grouped into perianal, ischiorectal, intersphincteric, and supralevator types, each defined by their specific site of occurrence. Ischiorectal abscesses represent approximately one-third of all anorectal abscesses. They typically present as swollen, erythematous masses associated with perianal pain and pus discharge in the perianal region, sometimes accompanied by fever. Due to the anatomical characteristics of the ischiorectal fossa, if these abscesses are neglected, they may extend into the lateral pelvic space, retroperitoneal space, possibly reaching the lower pole of the kidney, and even tracking down to the anterior thigh behind the fascia iliaca [1].

However, it's important to note that such extensive spread is quite rare and is generally limited to severely immunocompromised individuals. Retroperitoneal abscesses are more frequently reported in males and typically occur during the sixth decade of life [2]. The development of retroperitoneal abscesses can be attributed to various factors, including perforations associated with colorectal diseases of a neoplastic nature, diverticulitis, retroperitoneal appendicitis, pancreatitis, pancreatic cancer, inflammatory bowel diseases, genitourinary extravasation due to obstruction, osteomyelitis, postoperative duodenal ulcer perforations, infections related to pelvic and puerperal conditions, as well as trauma [3].

The formation of a retroperitoneal abscess can be attributed to various factors, such as perforations caused by malignant colorectal conditions, diverticulitis, retroperitoneal appendicitis, pancreatitis, pancreatic cancer, inflammatory bowel diseases, genitourinary blockages leading to leakage, osteomyelitis, postoperative perforations of duodenal ulcers, infections related to pelvic and puerperal conditions, trauma, as well as the spread of infections from distant sites through the bloodstream and lymphatic system [4-7]. Recognising a retroperitoneal abscess can be challenging due to its insidious nature and the absence of abdominal findings during physical examinations, often leading to delayed diagnosis. Such delays and inadequate drainage may result in elevated morbidity and mortality rates. Depending on the severity of the condition, the mortality rate for retroperitoneal abscesses can be as high as 25%. In rare cases, patients may even develop necrotising fasciitis in the retroperitoneal area, a condition associated with a high mortality rate [1]. In the present case, abdominal pain is attributed to a localised retroperitoneal abscess, which has triggered ileus.

The irritation caused by the abscess in the abdominal region and the discharge of pus into the abdomen, along with the spread of the abscess, may have complicated the accurate diagnosis of the case. In such situations, CECT plays a crucial role in evaluating the retroperitoneal region, as direct clinical assessment might not be feasible. Treatment of ischiorectal abscesses involves intravenous antibiotic administration and the drainage of purulent discharge. Recurrence and fistula formation are among the most common complications associated with this condition [1]. The current case represents an unusual scenario where an ischiorectal abscess secondary to a perineal abscess had extended retroperitoneally, reaching as far as the right psoas muscle. This extension had resulted in symptoms that closely resemble those of acute appendicitis.

CONCLUSION(S)

The case described above underscores the significance of comprehending the anatomical pathways through which an ischiorectal abscess can spread, as well as the crucial role played by CT scans in intricate cases. The clinical presentation might not adhere to the usual patterns, as the abscess could manifest in atypical anatomical regions. Despite its uncommonness, the possibility of extended anorectal abscesses should be taken into account when formulating a list of potential diagnosis.

REFERENCES

[1] Kumar D, Kumar MK, Raghupathi S, Mittal A. Retroperitoneal abscess secondary to the perianal abscess: A surgical dilemma. Int Surg J. 2019;6(10):3866-68.
[2] Tunuguntla A, Raza R, Hudgins L. Diagnostic and therapeutic difficulties in retroperi-toneal abscess. South Med J. 2004;97(11):1107-09.
[3] Hanley PH. Anorectal supralevator abscess-fistula in ano. Surg Gynecol Obstet. 1979;148(6):899-904.
[4] Crepps JT, Welch JP, Orlando R 3rd. Management and outcome of retroperitoneal abscesses. Ann Surg. 1987;205(3):276-81.
[5] Zissin R, Gayer G, Kots E, Werner M, Shapiro-Feinberg M, Hertz M. Iliopsoas ab-scess: A report of 24 patients diagnosed by CT. Abdom Imaging. 2001;26(5):533-39.
[6] Wong CH, Chow PK, Ong HS, Chan WH, Khin LW, Soo KC. Posterior perforation of peptic ulcers: Presentation and outcome of an uncommon surgical emergency. Surgery. 2004;135(3):321-25.
[7] Ramus NI, Shorey BA. Crohn's disease and psoas abscess. Br Med J. 1975;3(5983):574-75.

PARTICULARS OF CONTRIBUTORS:
1. Head, Department of General Surgery, Dr. D. Y. Patil Medical College and Research Centre, Pimpri, Pune, Maharashtra, India.
2. Associate Professor, Department of General Surgery, Dr. D. Y. Patil Medical College and Research Centre, Pimpri, Pune, Maharashtra, India.
3. Resident, Department of General Surgery, Dr. D. Y. Patil Medical College and Research Centre, Pimpri, Pune, Maharashtra, India.

NAME, ADDRESS, E-MAIL ID OF THE CORRESPONDING AUTHOR:
Dr. Mahendra Wante,
Associate Professor, 3rd Floor, Old Building, Department of General Surgery,
Dr. D. Y. Patil Medical College and Research Centre,
Pimpri, Pune-412303, Maharashtra, India.
E-mail: mahendrawante@yahoo.com

PLAGIARISM CHECKING METHODS: [Jain H et al.]
- Plagiarism X-checker: Nov 11, 2023
- Manual Googling: Feb 21, 2024
- iThenticate Software: Feb 27, 2024 (10%)

ETYMOLOGY: Author Origin

EMENDATIONS: 9

AUTHOR DECLARATION:
- Financial or Other Competing Interests: None
- Was informed consent obtained from the subjects involved in the study? Yes
- For any images presented appropriate consent has been obtained from the subjects. Yes

Date of Submission: **Nov 06, 2023**
Date of Peer Review: **Jan 09, 2024**
Date of Acceptance: **Mar 01, 2024**
Date of Publishing: **May 01, 2024**