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Retroperitoneal appendicitis complicated by a psoas abscess: A case report of a 62-year-old female patient

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Abstract
Background: Acute appendicitis may present atypically when the appendix is retroperitoneal, delaying diagnosis and increasing the risk of complications such as psoas abscess.
Case: A 62-year-old woman with hypertension and type 2 diabetes presented after one week of lumbar pain and fever, followed by acute confusion requiring ICU admission (GCS 10/15). Labs showed leukocytosis (13, 240/mm³) and markedly elevated CRP (492.1 mg/L). CT revealed extensive right pneumoretroperitoneum, a 43×35 mm right psoas fluid collection with air-fluid level, an inflamed retrocecal non-aerated appendix abutting the collection, thickened right peritoneal layers, multi-compartment effusions (peritoneal, retroperitoneal, right pleural, pericardial), and pneumomediastinum.
Management: The patient underwent retrograde appendectomy with evacuation of intra- and retroperitoneal pus, copious saline lavage, and drainage (Delbet blades and Salem tubes). Broad-spectrum antibiotics were initiated and later tailored to bacteriology.
Conclusion: Retroperitoneal appendicitis can masquerade as lumbar pathology and progress to psoas abscess. Prompt CT imaging and early surgical source control with appropriate antibiotics are critical to limit morbidity.

Keywords: Retroperitoneal appendicitis, psoas abscess, pneumoretroperitoneum, CT diagnosis, retrograde appendectomy

Introduction
Acute appendicitis is a common surgical emergency, with clinical presentation varying depending on the position of the appendix. Retroperitoneal appendicitis, which is less frequent, can be complicated by a psoas abscess, leading to diagnostic delays and increased morbidity. We report the case of a 62-year-old female patient with a history of depression, hypertension, and type 2 diabetes, presenting with retroperitoneal appendicitis complicated by a psoas abscess, managed surgically.

Clinical case
Medical history
- 62-year-old female patient
- Hypertension under antihypertensive medication
- Type 2 diabetes treated with oral antidiabetics

History of the illness
The patient had been experiencing lumbar pain for one week, without vomiting, digestive transit disorders, or externalized digestive bleeding, evolving in a febrile context with progressive deterioration of general condition. Two days prior to admission, she developed consciousness disorders that led to hospitalization in intensive care.

Clinical examination
On admission, the patient was confused and disoriented, with a Glasgow coma score of 10/15.
Vital signs were: blood pressure 140/90 mmHg, respiratory rate 22 breaths per minute, heart rate 128 bpm, temperature 36.9 °C, capillary blood glucose 5.38 mmol/L, and negative urine dipstick test.
Abdominal examination revealed generalized tenderness without palpable mass or surgical scar.

Rectal and vaginal examinations were unremarkable.

Laboratory tests

- **Hemoglobin:** 11.4 g/dL
- **White blood cells:** 13, 240/mm³
- **Platelets:** 289, 000/mm³
- **C-reactive protein (CRP):** 492.1 mg/L

Imaging

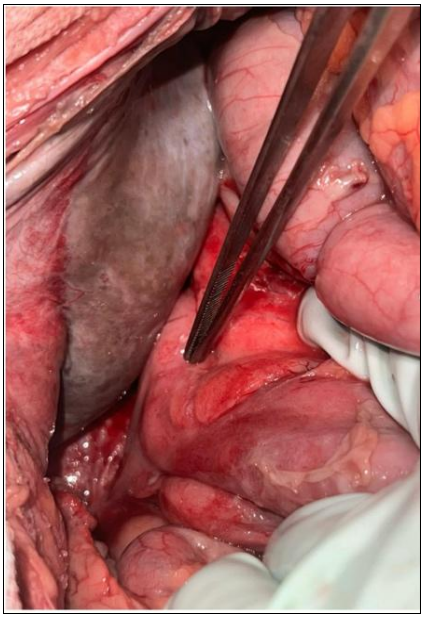
Abdominal and pelvic CT scan showed:

- Extensive right pneumoretroperitoneum with a fluid collection in the lumbar head of the psoas muscle (43 x 35 mm), containing an air-fluid level and air bubbles.
- Inflamed, non-aerated retrocecal appendix in contact
- with the collection.
- Thickening of the right peritoneal layers, and presence of peritoneal, retroperitoneal, right pleural, and pericardial effusions.
- Pulmonary inflammatory involvement with pneumomediastinum.

Surgical management

A retrograde appendectomy was performed under general anesthesia, combined with complete evacuation of purulent intra- and retroperitoneal collections, peritoneal lavage with saline solution, and drainage with Delbet blades and Salem tubes.

The patient received antibiotic therapy adapted to clinical evolution and bacteriological results.

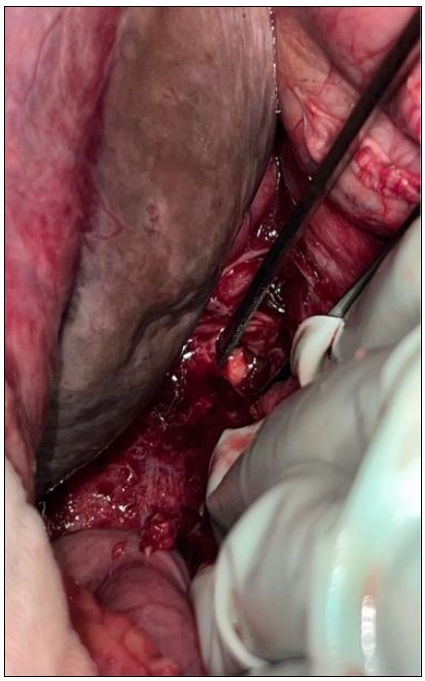


Discussion

Retroperitoneal appendix position and complication. The appendix is located in a retroperitoneal position in approximately 26-65% of cases, which alters the classic clinical presentation and exposes patients to rare complications such as psoas abscess [1, 2]. Appendiceal perforation in this closed space favors abscess formation, causing lumbar pain, fever, and psoitis.

Diagnosis

Diagnostic delay is common due to atypical symptoms. Abdominal pain may be absent or mild, while lumbar pain and systemic signs predominate. Abdominopelvic CT scan is the gold standard exam, allowing identification of the inflamed appendix, abscess collection, and infection spread [3, 4].



Therapeutic management

Surgical management is mandatory in cases of large psoas abscess, perforation, or associated peritonitis. Retrograde appendectomy, evacuation of collections, and peritoneal lavage are the cornerstones of treatment. Percutaneous drainage may be considered in some cases but has limitations in the presence of peritonitis or multiple collections [5, 6].

Empirical antibiotic therapy must cover aerobic and anaerobic bacteria and be adjusted according to antibiogram results.

Prognosis

Prognosis depends on early diagnosis and management. Our case highlights the importance of early intervention even in the presence of severe complications such as consciousness disorders and multiorgan failure.

Conclusion

Retroperitoneal appendicitis complicated by a psoas abscess is a rare but serious condition requiring a high index of clinical suspicion and appropriate imaging. Surgery combined with targeted antibiotic treatment allows effective infection control and improves prognosis.

Conflict of Interest

Not available

Financial Support

Not available

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