

# Retroperitoneal abscess due to *Achromobacter xylosoxidans* presenting as femoral pain

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## ABSTRACT

We describe the case of a 65-year-old patient who presented to our hospital with femoral pain. MRI and CT scan revealed a retroperitoneal abscess. We treated him with early surgical drainage and antibiotic treatment. The urine and draining pus cultures grew *Achromobacter xylosoxidans*. An iliopsoas abscess may show unique signs depending on its volume. To the best of our knowledge, this is the second reported case of retroperitoneal abscesses due to *A. xylosoxidans*. Surgical drainage appears to be effective when abscess is large.

## Introduction

Retroperitoneal abscesses present in urological patients as lower back pain, fever and chills.<sup>1</sup> They are caused by ureteral stones and urinary tract infections. We report the case of peritoneal abscess in a patient presenting with complaining of femoral pain without lower back pain.

## Case presentation

A 65-year-old man visited an orthopedic surgeon for femoral and groin pain of 2 weeks' duration. He had occasional low-grade fever from one month prior. He was generally healthy without a history of diabetes. Routine hematological and biochemical tests revealed an elevated inflammatory response. The white blood cell count was 12000/ $\mu$ L; neutrophils were 76.5%, C-reactive protein was 15.75 mg/dL. Spondylitis was suspected based on symptoms, and an MRI was performed. This revealed retroperitoneal abscess including a renal abscess and an iliopsoas abscess (Fig. 1). He was referred to the urology department to test for urinary tract infection, and contrast-enhanced CT examination was performed (Fig. 2A). Diagnosis of retroperitoneal abscess resulted in a large amount of abscess; thus, he was given antibiotics and a decision to perform surgical treatment concluded.

Two days after the urological consultation, transurethral ureteral stent placement and drainage under laparotomy were performed. A 6Fr28cm ureteral stent (10 mm, 5 mm drain) was placed in the retroperitoneum (Fig. 2B). Approximately 250 ml of purulent drainage was observed.

Femoral pain improved as drainage progressed. He was treated with piperacillin/tazobactam for 13 days including the perioperative period, followed by oral administration of levofloxacin for 5 days. Both urine and pus cultures grew *A. xylosoxidans*. The blood tests also improved and CT follow-up confirmed that the left renal pelvis and left iliopsoas abscess were reduced in size. The drain was removed, and then the urinary catheter was removed. He was discharged 29 days after the operation. The D-J stent was removed during outpatient care. His disease has not recurred for 6 years.

## Discussion

Psoas abscesses are classified as primary and secondary.<sup>2</sup> This case was considered a secondary iliopsoas abscess. On imaging, the positional relationship suggested that inflammation spread from the left kidney to the perirenal space and then to the psoas major.

The following two points are shown in this case. Femoral pain can also occur as the first symptom of a retroperitoneal abscess. It is also possible that naturally healthy patients can harbor perinephric abscesses caused by *A. xylosoxidans*.

Psoas abscess can develop with thigh pain or groin pain. In a total of 97 cases of renal and perirenal abscesses, 76.5% had low back pain and no groin or thigh pain was reported.<sup>1</sup> In the present case, the renal abscess was localized to the lower pole and appeared to be atypical.

Retroperitoneal abscess is often caused by *Escherichia coli* in urology. *A. xylosoxidans* is originally distributed widely in hospitals and humid environment; it is thought to cause bloodstream infection, respiratory

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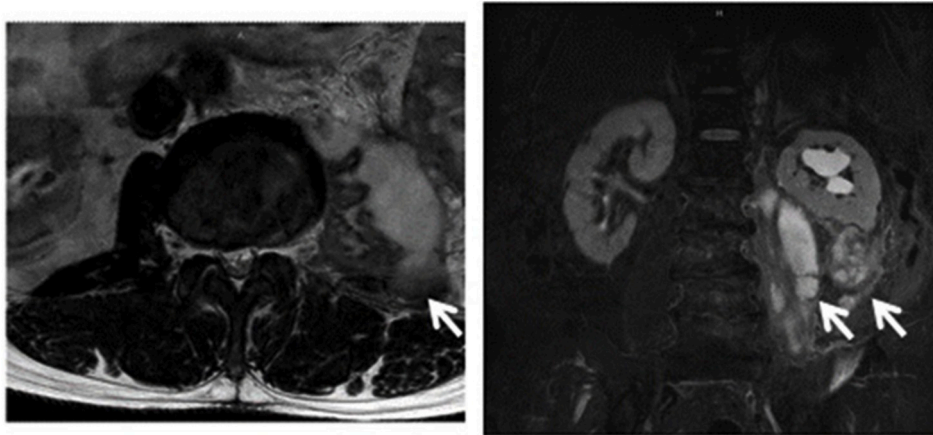


Fig. 1. T2-weighted images revealing high signal intensity between the left renal lower pole and the left psoas muscle.

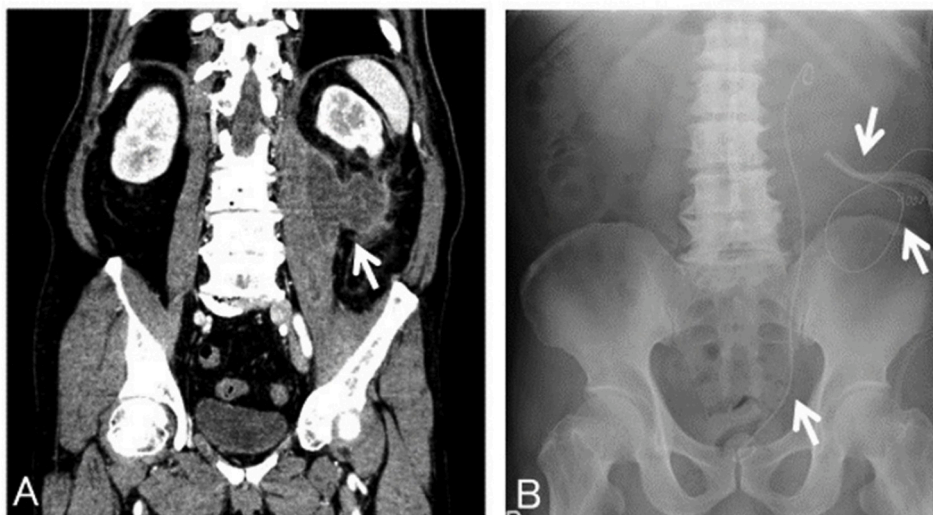


Fig. 2. A) An irregularly shaped low-absorption region, appearing to be a broad abscess, observed from the left renal lower pole to the dorsal perirenal space. B) X ray revealed D-J stent and two drains in place.

infection, and urinary tract infection in immunocompromised patients. In this case, there was no urinary obstruction, and probably hematogenous pyelonephritis and retroperitoneal abscess were formed. Only one case of perinephric abscess due to *A. xylosoxidans* has been reported till date.<sup>3</sup> To the best of our knowledge, ours is the second report of a retroperitoneal abscess caused by *A. xylosoxidans*. A previous report of 13 cases wherein *A. xylosoxidans* was detected in blood culture suggests that immunodeficient patients such as those with cancer are more likely to be affected. Carbapenem is said to be highly effective as an antibiotic, followed by imipenem and piperacillin/tazobactam.<sup>4</sup>

Surgical drainage including D-J stent was performed 2 days after diagnosis in this case. A retrospective study of 41 iliopsoas abscesses reported that the average abscess diameter receiving surgical treatment and conservative treatment were 60 and 20 mm, respectively.<sup>5</sup> Our patient's abscess measured 86 mm, and was successfully treated with surgery.

## Conclusion

Retroperitoneal abscesses may begin with unusual symptoms such as femoral pain. Even healthy patients may develop retroperitoneal abscess derived from urinary tract infection with *A. xylosoxidans*. If the size of the abscess is large, drainage is effective.

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## Consent

Written informed consent was obtained from the patient for publication of this case report.

## Declaration of competing interest

No potential conflict of interest to this article was reported.

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