

## CASE REPORT

# Fever with intradialytic pelvic pain: a case of iliopsoas abscess complicated with Methicillin-sensitive *Staphylococcus Aureus* bacteraemia in an end stage renal failure patient

Alif Adlan Mohd Thabit, MMed (Internal Med)<sup>1</sup>, Wan Mohd Rasis Wan Ahmad Kamil, MMed (Internal Med)<sup>1</sup>, Mohd Ramadhan Mohd Din, MMed (Internal Med)<sup>2</sup>

<sup>1</sup>Department of Medicine, Hospital Bentong, Bentong, Pahang, Malaysia, <sup>2</sup>Department of Medicine, Hospital Sultan Haji Ahmad Shah, Temerloh, Pahang, Malaysia

### SUMMARY

*Staphylococcus Aureus* is a Gram-positive cocci bacteria which had been found to be the causative organism in over 88% of patients with primary iliopsoas abscess. We report the case of a 53-year-old diabetic woman with end-stage renal failure diagnosed with left iliopsoas abscess with a catheter-related infection. Computed tomogram (CT) of abdomen and pelvis revealed hypodense lesions of left psoas, iliacus and quadratus lumborum suggestive of psoas abscesses. In addition, osteomyelitis changes at left sacroiliac and hip joint were seen. At surgery, she was found to have abscess at the posterior psoas muscle where she underwent open surgery drainage and percutaneous drain was inserted. A high index of suspicion of iliopsoas abscess should be maintained among haemodialysis patients presenting with intradialytic pelvic and hip pain and treated with optimal antibiotics therapy with appropriate surgical intervention.

### KEY WORDS:

*Methicillin sensitive Staphylococcus aureus, iliopsoas abscess, end stage renal failure*

### INTRODUCTION

Early diagnosis is difficult to achieve in many patients with iliopsoas abscess as they initially present with non-specific symptoms. They vary from back or hip pain with or without fever, abdominal or flank pain, and pain with ambulation are other common presenting features. Few cases of psoas abscess have been reported in chronic haemodialysis patients.<sup>1</sup> Computed tomogram (CT) remains the preferred modality for diagnosis, followed by percutaneous abscess drainage with antibiotics or surgical intervention.<sup>2</sup>

### CASE REPORT

We present a case of left iliopsoas abscess with methicillin-sensitive *Staphylococcus Aureus* (MSSA) bacteraemia. A 53-year-old female diagnosed with end-stage renal disease on haemodialysis via internal jugular catheter which was

inserted six weeks before presented with two weeks history of intermittent fever and left hip and flank pain during dialysis. Apart from being a diabetic with an HbA1c of 7.6% on long-term haemodialysis, there were no other risk factors for immunocompromised such as Human Immunodeficiency Virus (HIV), Hepatitis B or Hepatitis C nor was she on any immunosuppressive agents.

One month prior to presentation to the hospital, she had been evaluated at our hospital haemodialysis (HD) unit with a history of fever and chills during her HD session. She was admitted and treated as a catheter related blood stream infection with MSSA of the right internal jugular catheter with intravenous Cloxacillin 1g q6h for six days. The catheter site was changed but the antibiotics course was suboptimal as the patient self-discharged at her own risk, and presented again 10 days later with catheter related infection with MSSA. She was treated with intravenous Cloxacillin 1g q6h during the five days admission, and after discharge was given intravenous Cefazolin 1g in six haemodialysis sessions. Subsequent repeat cultures were negative. During this time she had already complained of left pelvic pain which worsened during subsequent dialysis sessions. Hip and pelvic X-rays ruled out fractures.

During her current presentation, she was septic looking and had lower abdominal tenderness during left hip extension with decreased range of movement at the left hip. The right flank and upper buttocks was non-tender. White blood cells (WBC) was  $23.9 \times 10^3/\text{UL}$  (93.6% neutrophils), C-Reactive Protein (CRP) was 163.14mg/L. Initial Ultrasound abdomen revealed irregular hypoechoic lesion along the psoas muscle until the pelvic region measuring 3.4 X 3.0 X 11.1cm. CT abdomen showed left iliopsoas heterogeneous collection 4.4 X 5.2 X 11.6cm with superior extension to proximal attachment of left psoas and inferior extension until distal muscles insertion at lesser trochanter of left femur with extension into the left sacroiliac and left hip joints with osteomyelitis changes. She was treated as catheter-related blood stream infection and was initially started on IV Cloxacillin 2g q4h based on preliminary central and

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Corresponding Author: Alif Adlan Mohd Thabit, Physician, Hospital Bentong, General Medicine, Hospital Bentong, Bentong, Pahang Darul Makmur 28700 Malaysia Email: alif\_bata@hotmail.com

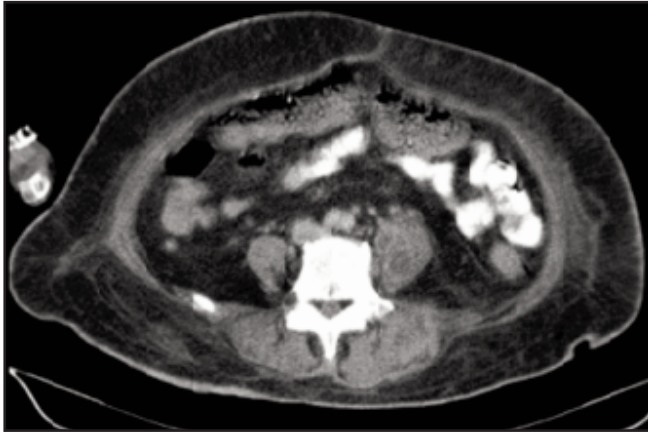


Fig. 1: Heterogeneous collection at left psoas, iliacus muscles.

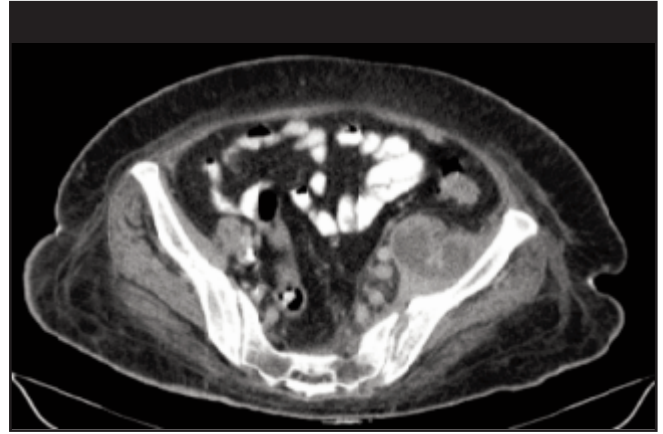


Fig. 2: Extension of collection into left sacroiliac and left hip joints.

subsequently peripheral blood culture growth of MSSA. After 5 days it was changed to intravenous Vancomycin in view of repeated peripheral blood culture grew methicillin-resistant Coagulase negative *Staphylococcus* (MR-CoNS). Intravenous Vancomycin was served 1g for 5 HD sessions.

The patient remained febrile and became increasingly delirious, whilst her left hip and flank pain increased. Her WBC was increased. CT brain plain and contrasted showed no abscesses or meningeal enhancement. Patient underwent surgical open drainage of the abscess with approximately 130cc located at the posterior psoas muscle. Subsequently a percutaneous drain was inserted with an average daily drainage of within 50cc and 100cc of pus, which grew MSSA, which prompted intravenous Cloxacillin 2g q4h to be restarted. The fever slowly improved and with decreasing trend in the volume of the drainage.

At the time of writing, she was afebrile and pain much controlled. Her leucocytosis had improved, and the CRP had reduced from 163.14mg/L to 21mg/L. Repeated ultrasound showed residual abscess collection and is planned for total of eight weeks of intravenous Cloxacillin.

## DISCUSSION

Severe low back pain in haemodialysis patients should prompt the possibility of iliopsoas abscess, despite the absence of any history of adjacent mechanical intervention.<sup>3</sup> To date, there have been no known reports linking iliopsoas abscess with intradialytic pelvic or hip pain. This, along with the presence of persistent fever raised the suspicion of

emergence overwhelming sepsis due to the on-going abscess collection as a result of recurrent catheter related infection. Recurrent MSSA infection should prompt uninterrupted and a longer course of intravenous Cloxacillin. The success of management depends on adequate drainage, effective antibiotics, and removal of the initial source of infection. We advocate that it is essential for clinicians to determine whether Methicillin-resistant CoNS bacteraemia infections as true infection or contaminants without compromising the management of MSSA growth of psoas abscess, as vancomycin does not offer adequate beta lactam coverage as cloxacillin.<sup>4</sup> Drainage of abscess as well as debridement of joint or bone involved in the presence of osteomyelitis are mandatory to ensure complete resolution of disease. In summary, a high index of suspicion of a metastatic infection such as an iliopsoas abscess should be maintained in unresolved fever among patients with indwelling venous catheters presenting with intradialytic pelvic or hip pain.

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