

## Images in Infectious Diseases

### Slike u infektivnim bolestima

## Psoas abscess due to community acquired methicillin-resistant *Staphylococcus aureus* in a patient with spondylodiscitis

### Apsces m. psoasa uzrokovan izvanbolnički stečenim meticilin-rezistentnim zlatnim stafilokokom u bolesnika sa spondilodiscitisom

Davorka Dušek<sup>1,3)</sup>, Neven Papić<sup>1,3)</sup>, Ivan Kurelac<sup>1)</sup>,  
Adriana Vince<sup>1,3)</sup>, Klaudija Višković<sup>1)</sup>, Ivana Župetić<sup>2)</sup>

<sup>1)</sup>University Hospital for Infectious Diseases Zagreb,

<sup>2)</sup>University Clinical Hospital Center "Sestre milosrdnice"  
Zagreb; Clinical Hospital for Traumatology

<sup>3)</sup>University of Zagreb, School of Medicine

**Primljeno:** 2016–12–23

**Received:** 2016–12–23

**Prihvaćeno:** 2017–02–22

**Accepted:** 2017–02–22

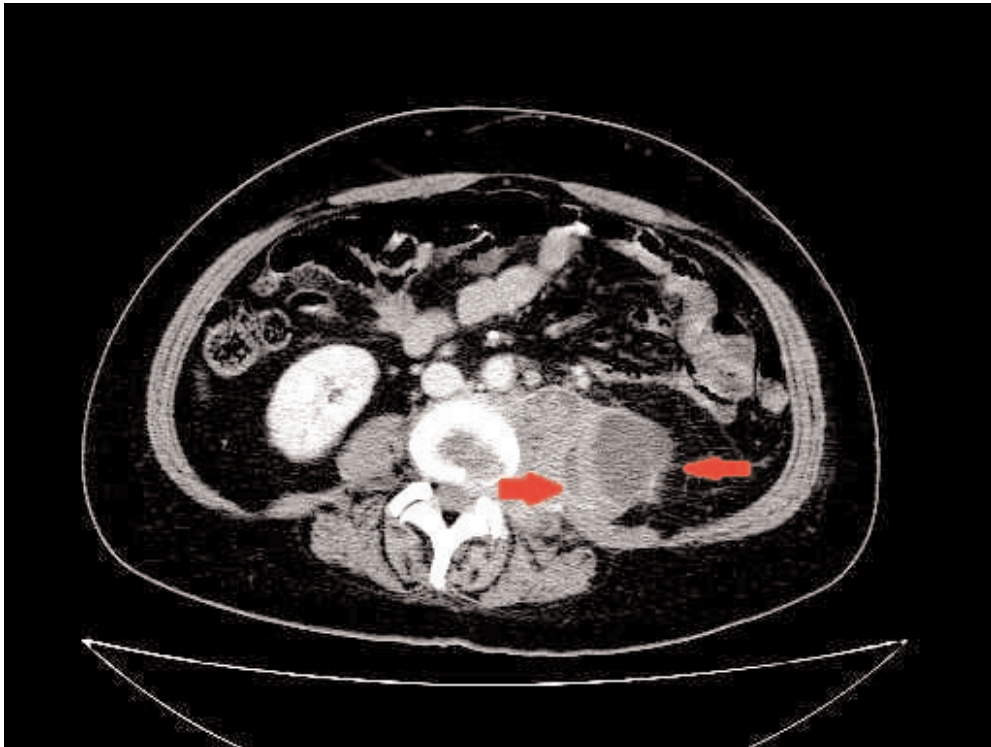
A 49-year old female patient was admitted to the Infectious Diseases hospital because of fever lasting for 4 weeks accompanied by severe back pain that spread to the left inguinal region and left leg. The patient had difficulty walking because of pain in her leg. She was seen by her general practitioner and neurologist several times and was treated with ketoprofen and dexamethason; she also received 10-day course of levofloxacin. Radiologic examinations were not performed at that time. Past history was significant for anxiety disorder and multiple sclerosis diagnosed 4 months prior to the admission to our hospital; she was successfully treated with pulse corticosteroid therapy.

On examination she was febrile (T<sub>tymp</sub> 38 °C), malaised, lying down with flexion of her left hip. Remainder of the physical examination was unremarkable. Laboratory results were significant for elevated levels of CRP (120 mg/l) and anemia (107 g/l), while blood cultures remained sterile.

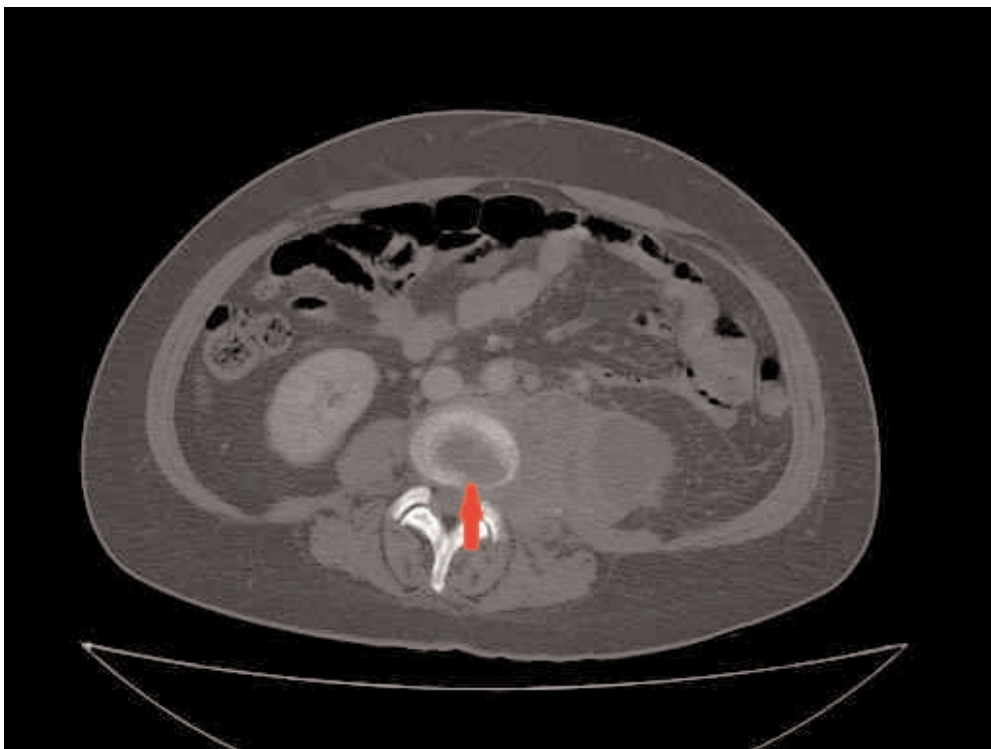
CT of the abdomen revealed a huge multilocular left psoas muscle (Figure 1.) and destruction of the L3 vertebral body lower endplate (Figure 2.)

The patient was then transferred to the University Clinical Hospital Center "Sestre milosrdnice" Zagreb; Clinical Hospital for Traumatology where the magnetic resonance imaging (MRI) of the lumbar spine was performed, showing signs of L3 and L4 vertebral bodies osteomyelitis and L3/L4 discitis with intradiscal abscess formation extending into the left psoas muscle forming a huge abscess (Figure 3.). After the MRI the patient was admitted to the vertebrology department where psoas abscess was drained and community acquired MRSA (CA-MRSA) was isolated from the pus. She was initially treated with vancomycin and piperacillin-tazobactam, and the therapy was later deescalated to vancomycin.

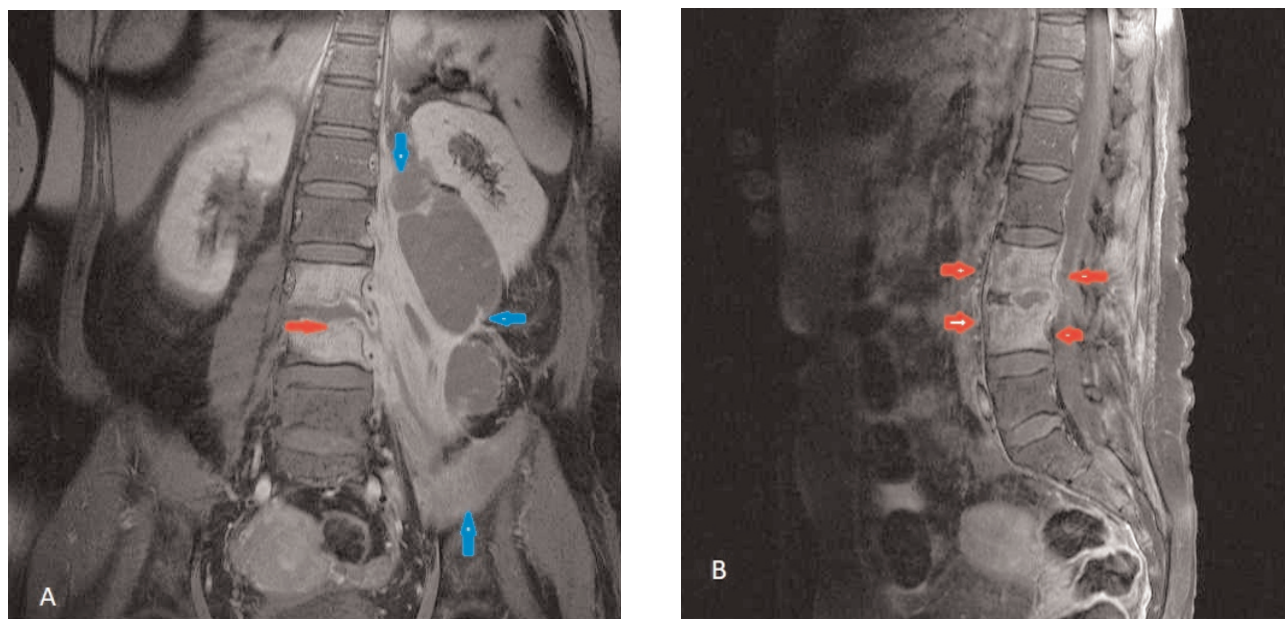
Psoas abscess is a rather rare entity characterized by collection of pus in the iliopsoas muscle compartment [1]. It can occur as a result of contiguous spread from adjacent structures (i.e. osteomyelitis, spondylodiscitis, renal abscess) or by the hematogenous spread from a distant site. The most common pathogen is *Staphylococcus aureus*, including (MRSA). Other pathogens include enteric bacteria (*E. coli*, *Kl. pneumoniae*), streptococci and tuberculosis in areas where it is common. Clinical features include back or flank pain, pain radiating to hip or leg, fever, limp, limitation of hip movement (pain on hip extension). The diagnosis should be confirmed by imaging modalities. MRI is considered to be the primary imaging modality recommended by the Infectious Diseases Society of North America (IDSA) because of its high sensitivity and specificity (97 % and 93 % respectively) [2]. The sensitivity and specificity of the CT is lower (67 % and 50 %, respectively) but it has a superior ability to detect necrotic bone (sequestrum) and intramedullary and soft tissue gas when compared to MRI [3]. CT is strongly recommended in patients who are unable to undergo MRI because of the metal and electronic implants. Blood cultures and abscess material can help in determining the etiology of psoas abscess. Patients should



**Figure 1.** Postcontrast computer tomography scan of the abdomen (axial section), showing a left iliopsoas muscle abscess (red arrows)



**Figure 2.** Computer tomography scan of the abdomen in "bone window" (axial section), showing the destruction of L3 vertebral body inferior end-plate (red arrow)



**Figure 3.** Postcontrast T1 magnetic resonance imaging (MRI) of the lumbar spine: A-coronal section and B-sagittal section; showing high signal intensity from intensive contrast uptake of the L3 and L4 vertebral bodies, narrow L3-L4 disc space, irregularities of L3 inferior and L4 superior endplates with intradiscal abscess formation extending into the left psoas muscle. Inflammatory changes are also spreading along the anterior and posterior longitudinal ligament-intraspinal epidural space at the level of L3/L4, consistent with vertebral osteomyelitis and discitis (red arrows). Left psoas muscle abscess (A-blue arrows)

be treated by prompt initiation of antimicrobial therapy (coverage against *S. aureus* and gram-negative and anaerobic pathogens) and percutaneous drainage (under ultrasound or CT guidance) or surgical drainage if percutaneous drainage fails [4]. Antimicrobial therapy should be continued for 3 – 6 weeks after the drainage.

## References

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