

Back pain in an elderly patient - A case report

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ABSTRACT

Low back pain (LBP) secondary to the degenerative spinal disorder is a very common medical condition that presents in elderly people and rarely indicates a serious illness. We would like to report a case of 83 years old gentleman with a history of chronic degenerative back pain with the change in the nature of back pain, which triggered us to arrange further investigations and diagnosed Psoas abscess(PA) secondary to septic vertebral arthritis. It was treated with CT-guided drainage and sensitive antibiotics. This case report highlights the atypical presentation of diseases in elderly patients, and the common pitfalls of missing serious pathologies, which increases morbidity and mortality.

Keywords: low back pain, septic arthritis, Psoas abscess

INTRODUCTION

Low-back pain is one of the most common health problems which can be defined as any pain between the last ribs and the lower gluteal folds, with or without pain in the lower limbs [1]. It is estimated that 70 percent to 85 percent of the population will experience an episode of LBP at some point and ninety percent of these individuals will have more than one episode [2,3]. The potential causes of low back pain are non-specific or mechanical low back pain, degenerative spinal structures such as scoliosis, cauda equina syndrome, radiculopathy, vertebral fractures, cancers, spinal infection, and radiating pain from visceral diseases [4].

In this case study, we reported an 83-year-old patient presented with worsening chronic back pain which had red-flagged for further investigations and diagnosed epidural abscess, facet septic arthritis, and secondary psoas abscess. The back pain with these conditions can make a clinician misses the underlying diagnosis. Therefore, we want to highlight the concealed nature of disease presentation in elderly people in this case report.

Psoas abscess (PA) is a condition due to the accumulation of suppurative fluid in the fascia surrounding the psoas muscle, which has an important role in the flexion of the trunk [5]. It is rarely encountered and difficult to diagnose because it can present with insidious onset and vague clinical features. A study found that the mean time span between the onset of symptoms and PA diagnosis was found to be 22 days with one-third of patients diagnosed after 42 days [6]. PA results in high mortality and morbidity because of diagnostic and treatment delays [5]. PA is classified as primary (blood or lymphatic spread from other parts of the body) or secondary (local spread from vertebrae, GI tract, Genitourinary tract, aorta, etc.; Bony sites are most frequent (39.5%)). Pain (91%) and fever (75%) are the two most common symptoms [6,7]. CT or MRI scans, blood cultures and cultures of abscess samples are the investigations of choice for PA. The complications of PA include septic shock, deep vein thrombosis due to compression of the iliac and

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femoral vein, hydronephrosis due to ureteric compression, hip septic arthritis and relapse.

CASE PRESENTATION

An 83-year-old, functionally independent gentleman was admitted with worsening chronic, dull-aching lower lumbar back pain radiating to the back of the right thigh. The pain had intensified in last 5 days and limited his mobility and sleep. He denied fever, recent injury or fall, leg weakness, numbness, and urinary and bowel incontinence. Past medical history includes hypertension, hyperlipidemia, diabetes, Stage 3 chronic kidney disease, ischaemic heart disease, atrial fibrillation on rivaroxaban and bisoprolol, peripheral vascular disease and varicose veins.

On examination, there were no neurological deficits with normal anal tone and peri-anal sensation. Spine alignment was normal during the inspection. Mild tenderness over lumbar vertebrae 3 and 4 level on palpation was present. The spinal movements were limited due to pain. No heart murmur is noted. Normal air entry was present bilaterally. On gait examination, the patient had a slight kyphotic posture on standing, but he could only ambulate with a walking frame for a few steps because of the back pain.

Degenerative changes with severe narrowing of the L5/S1 disc space and neural foramina with preserved vertebral height in lumbar spine X-ray. Initial blood tests were eGFR 49ml/min/1.73m², albumin 34 g/dl, Hb 9.2g/dL, WBC 11.6x 10⁹/L, Platelet 452x 10⁹/L, C-reactive protein 77.5mg/L (<10.0 mg/L), pro-calcitonin 0.40ug/L (<0.05 µg/L) and serum ferritin 1147 (47.0 - 452 µg/L), serum calcium 2.57 (2.2-2.6 mmol/L).

Further workups for the myeloma were done in view of back pain, anaemia and upper limit of high calcium and noted as LDH 222 (90-109U/L), serum Ig G 20.84 (5.49-17.11G/L), serum IgA 0.98 (0.47-3.59 G/L), serum IgM 11.98 (0.15-2.59 G/L), Immuno-electrophoresis of serum and urine was positive for the monoclonal Anti-Ig M and Anti-Kappa, beta-2 microglobulin 5164 (878-2000UG/L). Subsequently, the patient declined to pursue further investigations and treatment for the diagnosis of immunoglobulinopathy. We considered that the mildly high c-reactive protein, procalcitonin and high ferritin might be related to the possible immunoglobulinopathy.

	Day of admission 1	Day of admission 3	Day of admission 10	Day of admission 12	Normal range
Haemoglobin	9.2	9.4	9.4	8.7	12.0 -16.0 G/dl
WBC count	11.6	10.6	12.9	8.1	4.0 -10.0x 10 ⁹ /L
Platelet count	452	466	505	419	140 -440x 10 ⁹ /L
Neutrophil	77.6	68.9	70.8	59.2	40 - 75%
Lymphocyte	10.3	15.5	15.8	23.3	15 - 41%
Monocyte	9.9	10.3	8.9	9.8	2 - 10%
Eosinophil	1.7	4.5	3.6	6.8	0 - 6%
Basophil	0.5	0.8	0.9	0.9	0 - 1%
C-reactive protein	101.5	77.5	71.0	59.3	<10mg/L

Table 1. Laboratory values according to the day of admission

Although the patient was clinically stable, afebrile and infection markers were relatively unchanged in subsequent blood tests (see Table 1), the pain did not subside with opioids analgesia and physiotherapies. Hence, MRI lumbar spine was performed on Day 13 of admission due to the change in the pain character, poor response to analgesia and functional decline. Left facet joint septic arthritis, left para-facet joint abscess and left psoas abscess were investigated on MRI scan (Figure 1). The patient denied invasive surgical interventions. Therefore, he underwent CT-guided drainage of abscesses followed by 6 weeks of intravenous Penicillin G, which was targeted antibiotic therapy based on the culture of the abscess drain sample, which grew *Streptococcus agalactiae* and analgesia. No other suspicious infection source or mass was found in the CT scan of the abdomen

and pelvis and echocardiogram. A repeated MRI scan in 6 weeks showed the complete resolution of infection. The patient was discharged successfully with dramatic improvement in pain and mobility after rehabilitation.

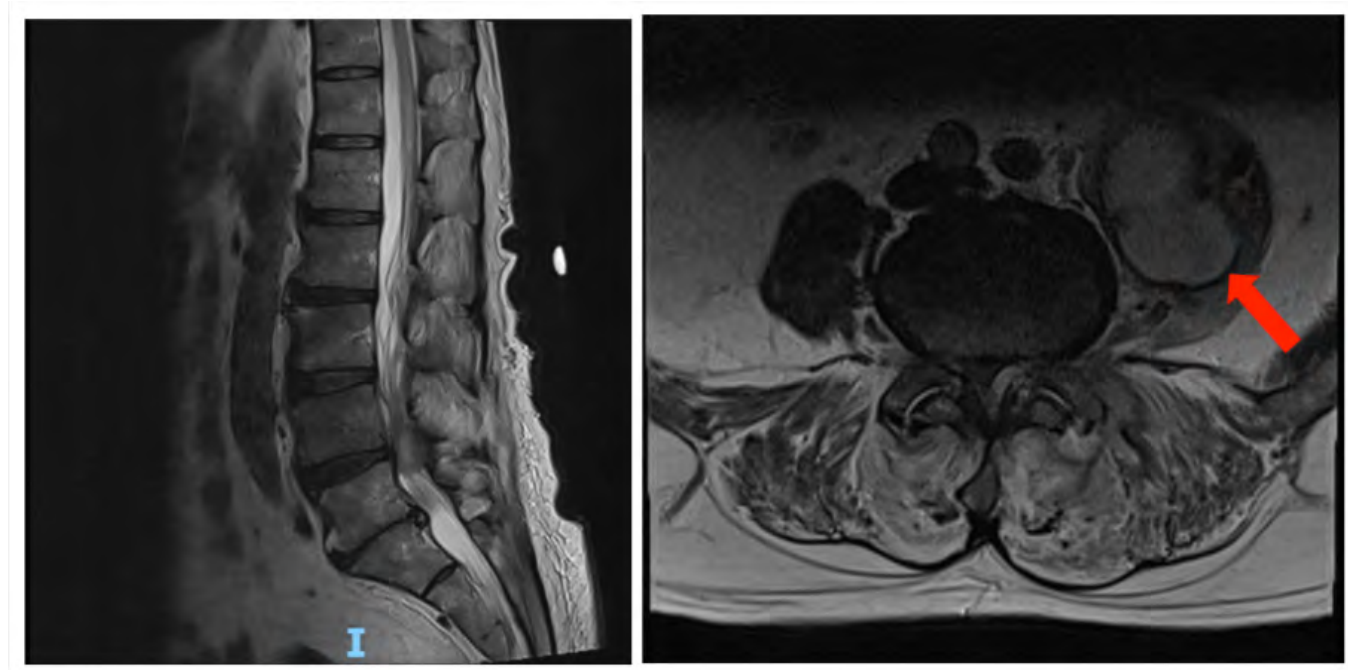


Figure 1. MRI of lumbo-sacral spine showing left facet joint septic arthritis complicated by a 2.4cm left para-facet joint abscess and a 5.1cm left psoas abscess with the extension of the abscess into the L4 and L5 epidural spaces (Red arrow showing psoas abscess)

DISCUSSION

Septic vertebral arthritis and Psoas abscess (PA) are rare conditions in elderly patients that are challenging to diagnose and atypical in the geriatric age group. Our case was the secondary PA from septic vertebral arthritis. The patient has chronic low back pain due to the change in the nature of the symptoms, but he was not clinically septic and had stable infection markers. These features lead us difficult to diagnose the root cause of the back pain. Therefore, septic arthritis and PA should be considered as one of the differential diagnoses of back pain in the elderly, even if there are no septic features. In addition, we need to emphasize the alteration in the pain pattern, severity, functional abilities, and address it further carefully. Pain can be multifactorial. The back pain in our patient is contributed by septic vertebral arthritis, Psoas abscess, degenerative spine disease and possible gammopathy. Hence, we need to find out the reversible causes of the pain and treat it appropriately to improve both the symptoms and the functional status so that it will not impact the quality of life of elderly patients. 82% of secondary PA is from enteric organisms [8] and *Streptococcus agalactiae* was detected in our case. Percutaneous drainage and targeted antibiotic therapy is an initial and standardized treatment and is successful in 90% of cases. Surgery is rarely indicated [9]. In one series, mortality may approach 100% in untreated cases [5]. We highlighted the atypical presentation in the geriatric population and a high index of suspicion is needed for prompt diagnosis and intervention to reduce morbidity and mortality.

CONCLUSION

Back pain due to septic vertebral arthritis complicated by secondary Psoas abscess is an uncommon diagnosis for elderly people with back pain and can have a vague clinical presentation. This may

lead to delays in diagnosis, resulting in high morbidity and mortality. Hence, a high level of suspicion is required for diagnosis and appropriate management will improve the outcomes.

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