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Case Report

Polymyalgia Rheumatica Mimicking an Iliopsoas Abscess

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Abstract

Background: Polymyalgia Rheumatica (PMR) is a clinical condition characterized by pain and stiffness of proximal muscles of shoulders and hips. We here present an unusual case initially believed to be an abscess of the iliopsoas muscle.

Case presentation: An elderly man visited our clinic with symptoms of left hip pain and stiffness and an elevated erythrocyte sedimentation rate (ESR) at 96 mm/h, but no fever.

An MRI of the left hip and proximal femur suggested an iliopsoas abscess, which was aspirated with clear yellow fluid and no bacteria. A few weeks later, additional pain and stiffness of the muscles of both shoulders made a diagnosis of PMR suspicious. A prompt response to high doses of Prednisolone confirmed the diagnosis.

Conclusion: PMR may present with hip-pain due to a unilateral iliopsoas bursitis.

BACKGROUND

An iliopsoas abscess is a rare condition, often appearing with vague clinical features. In a review article by Lee et al, during 1988-1998 a major Taiwanese hospital registered about one case per year Lee et al, [1] The affected individual typically presents with fever, back-pain and limp. However, this characteristic impression is only seen in about 30% of cases.

The iliopsoas compartment is an extraperitoneal space, which contains the iliopsoas and iliacus muscles (Figure 1). The psoas muscle lies in close proximity to organs such as the sigmoid colon, appendix, jejunum, ureters, abdominal aorta, kidneys, pancreas, spine, and iliac lymph nodes. Consequently, infections in these organs can spread to the iliopsoas muscle. The abundant blood supply of the muscle predisposes it to haematogenous spread from occult sites of infection, [2].

In addition to tuberculosis of the spine, and metastatic infections, primary abscess can occur in patients with diabetes mellitus, intravenous drug abuse, AIDS, renal failure and immunosuppression. Crohn's disease is the most common cause of secondary abscess. *Staphylococcus aureus* is the causative organism in nearly 90% of the cases [2,3]. The mortality rate in untreated patients is nearly 100% [4].

Computed tomography is considered the diagnostic "gold standard" [5]. Some authors believe that magnetic resonance imaging is superior to computed tomography because of better

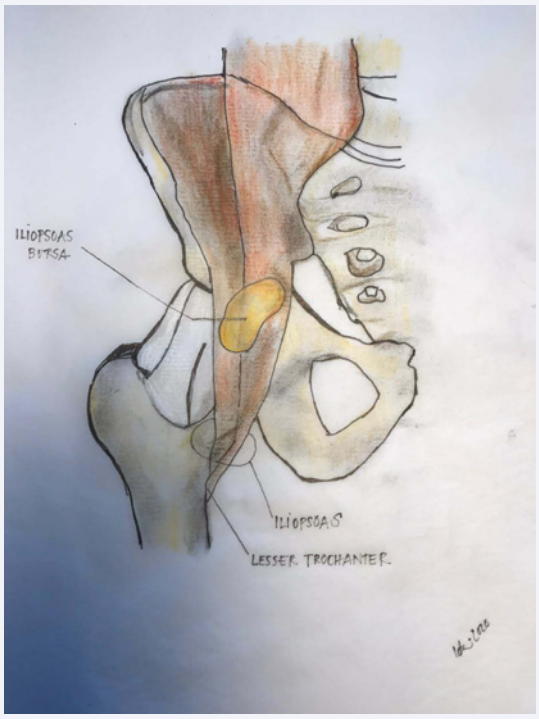

Figure 1 Drawing of the anatomy of the iliopsoas bursa, which is located below the iliopsoas muscle, in direct contact with the joint capsule.

discrimination of soft tissues without the need of an intravenous contrast medium [6,7].

Treatment involves surgical drainage and antibiotics.

Polymyalgia Rheumatica (PMR) is a clinical condition, common in the elderly (over 70 years), is more prevalent among women and characterized by pain and stiffness in proximal muscles of the neck, shoulders and hips in combination with fatigue.

Patho-anatomic studies with ultrasound and PET scan (positron emission tomography) suggest synovitis and bursitis reactions to be causative, but no specific laboratory test exists. A related condition is temporal arteritis sometimes occurring simultaneously. Untreated this condition can cause blindness.

Treatment for both diseases include large doses of cortisone over several months. A quick response to this regimen also has diagnostic value [8,9].

CASE REPORT

December 2018, a 76-year old never-smoking, regularly exercising, still professionally active university professor (BKJ) presented at my General Practice Clinic. He complained of left hip pain and stiffness that had bothered him for about a month. His past medical history was unremarkable with the exception of a fractured patella after a bicycle accident in 2017. The patella was repaired with internal fixation by a metal wire and screws and was fully healed. He reported no chronic illness, or intake of medicine.

My physical exam revealed a man with bifocals, walking without a limp. His hip motility was slightly reduced for rotation and he expressed pain on inward rotation and on elevating his left leg from horizontal position. No other musculoskeletal symptoms were reported. No temporal artery tenderness was found. A prostate examination was unremarkable. However the erythrocyte sedimentation rate (E-SR) was elevated at 96 mm/h (normal 0-15), customary body temperature (37.2) and fasting b-glucose, a slightly reduced blood haemoglobin (Hb) at 106 g/l, normal blood-cell count, s-Fe, s-B12 within reference range, no fecal blood, (f-Hb negative), and a BMI of 24 kg/m^2 (normal<25). Tests for rheumatoid arthritis (Rheumatoid factor and cyclic citrullinated peptide) came back negative. Serum electrophoresis showed signs of slight inflammatory activity, but no para-proteins.

An x-ray of the hips revealed no sign of osteoarthritis, nor any other pathology.

Given the elevated E-SR, a normal chest x-ray of the lungs was recorded, as well as a prostate specific antigen (PSA/s) within normal range.

After discussion with an infection specialist, the patient was immediately started on Heracillin 1gx3 (Figure 2 Ct).

An aspiration from the abscess revealed a clear, yellowish, aseptic fluid with no bacterial growth and the PCR-test (polymerase chain reaction) for bacteria came back negative.

BKJ was referred to the orthopaedic department of the local hospital.

The surgeon who also reviewed the series of MRI pictures concluded that this was not an abscess, but an inflammation of the hip joint that communicated with the iliopsoas bursa.

(Figure 3 Mri) The patient was prescribed anti-inflammatory medication (Ibuprofen 400 mgx3).

In February 2019, he returned. The hip pain remained uninterrupted and he had started to feel slight pain and stiffness of his shoulder girdle muscles bilaterally. The E-SR had ascended to 105 mm/h.

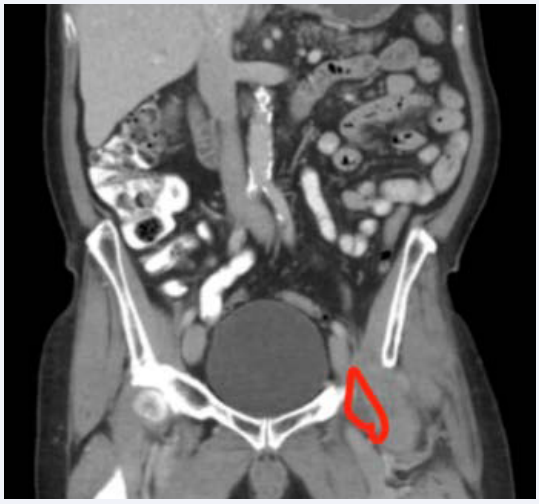

Figure 2 Computed tomography (CT abdomen) with intravenous contrast injection coronal view. Ventrally of the left side of caput femoris, left leg, there is a secluded, capsulated area (in the red circle) with fluid measuring 18x22 mm without obvious connection with the hip joint capsule. There is some effusion around the left hip joint.

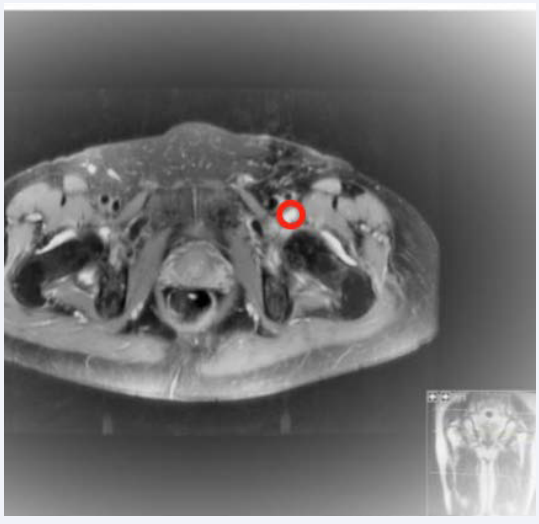

Figure 3 Magnetic Resonance Imaging (MRI) tomography of the left femur, axial reconstruction. Water sensitive sequences (STIR, 3 Tesla). Ventrally on the left side of the femoral head, left leg, there is a typical picture with a distended capsule (in the red circle) and an increased amount of fluid in the iliopsoas bursa and of the hip joint as signs of bursitits. In a cross section immediately cranially of the joint as signs of bursitis. In a cross section immediately cranially of the joint, there is a visible connection with the hip joint.

A diagnosis of PMR was suspected and he was prescribed high dose of cortisone (Prednisolone 1 gx2). A week later, the pain in his hip was totally gone, he felt no longer stiffness in his shoulders and the mobility of his hips were back to normal.

Over another 2 months, his E-SR was gradually reduced down to 20, and his Hb back at 132 g/l, his customary level over the past several years.

After another month, his fasting b-glucose surged and he was diagnosed with diabetes mellitus type 2. He started a low carbohydrate diet and the Prednisolone was slowly reduced with improvement of his fasting b-glucose.

Just a few months later, BKJ unfortunately suffered a traumatic skull fracture upon descending a flight of stone-stairs where he slipped and fell. He was ambulanced to the neurosurgery department and presented there with a left sided hemiparesis.

Due to the position of the fracture, a conservative approach was determined.

He recovered slowly over the coming months and managed to walk with a stick. His memory and cognitive abilities returned, when he suddenly developed pain in his chest due to a lung embolus, lost consciousness and died in the hospital emergency room.

DISCUSSION AND CONCLUSION

The astonishing suggestion of an ilio-psoas abscess together with a high E-SR necessitated a speedy investigation. A spread by low-grade infection of the operated patella was initially a reasonable possibility, but with normal body temperature, lack of focal symptoms from the knee and a normal white blood cell count it was highly unlikely. We were happy to see that the aspired fluid was clear and free from microorganisms. Especially since the patient had no fever, was quite energetic, and alert we seriously doubted the initial diagnostic proposition of the radiologist. The diagnosis provided by the orthopaedic surgeon was inflammation of the left hip joint and bursitis, but missed the systemic illness at hand. In a review of cystic lesions around the hip joint expressed as ganglions, bursitis and synovial cysts Yucatan et al associated most of these lesions with osteon- and rheumatoid arthritis [10]. We have found one previous case report in the literature by Tani et al. of a patient with iliopsoas bursitis due to PMR [11].

Not until BKJ came back in February, 2019 with symmetric shoulder pain and stiffness, two months after the initial visit, PMR was suspected and a week later was confirmed by the quick response to Prednisolone treatment.

This case is unusual in that it starts with the suggestion of a very different and potentially more serious condition: an abscess of the iliopsoas muscle.

It also took two months to ascertain a diagnosis.

Furthermore, it illustrates one common side effect of cortisone treatment: Diabetes Mellitus Type 2. The anemia was likely caused by the systemic inflammation through interference of the erythropoiesis [12].

Finally, the patient died, totally unrelated to the diagnosis in question within a year after his initial visit.

In conclusion, PMR may present with hip-pain due to a unilateral iliopsoas bursitis.

We hope that this case description will be a revelation to the colleague who will meet a future patient with a similar predicament.

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