ILIAC MUSCLE ABCESS AND STAPHYLOCOCCAL METASTATIC INFECTION IN A DIABETIC PATIENT

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SUMMARY - We report the case of a 44-year-old obese diabetic woman admitted for fever. Blood cultures grew *Staphylococcus Aureus* and antibiotherapy was started. Iliac access was diagnosed and surgical drainage done. Clinical evolution was marked by metastatic dissemination: sacroiliac osteolysis, right shoulder osteoarthritis, spondylitis of the third lumbar vertebra and pulmonary localizations. This case-report shows diagnosis and treatment difficulties of an iliac muscle access with metastatic localization in a diabetic patient.

Key-words: diabetes, iliac muscle access, staphylococcal metastatic infection.

RÉSUMÉ - Dissémination métastatique d’une infection à Staphylocoque chez une patiente diabétique.


Mots-clés : diabète, abcès du muscle iliaque, infection métastatique à staphylocoque.

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Diabetic patients are more exposed to infections. Some infections are almost specific of diabetes mellitus like invasive otitis externa, rhinocerebral mucormycosis and emphysematous infections. Other infections are more frequent such as iliac muscle abscess. It is very important to evoke this unusual diagnosis. Indeed, if not recognised and treated promptly, morbidity and mortality are higher. This case-report shows diagnosis and treatment difficulties of this condition.

**CASE-REPORT**

A 44-year-old obese (BMI: 32 kg/m²) diabetic woman was admitted to the Endocrinology unit because of fever (40°C). She had lumbar pain for three days and pyelonephritis was suspected. Her pulse was 100 beats/min, her breathing frequency was 30/min, her blood pressure was 140/80 mmHg. Laboratory tests were performed: the blood white-cell count was 24,200 per cubic millimeter (82 percent neutrophils) and C-reactive protein plasmatic level was 314 mg/l. HbA1c was 12%. Blood glucose level was 22 mmol/l with ketosis but without any acidosis (acetoneuria = +++; pH = 7.35; alcaline reserve = 16 mmol/l). The levels of hemoglobin, platelets, creatinine, electrolytes, the prothrombin time, and the urinalysis results were normal. Findings of electrocardiography and chest radiography were reassuring. Three blood cultures grew *Staphylococcus aureus* methicillin sensitive. The initial parenteral antimicrobial therapy was aminoglycoside associated with oxacillin. Three days later, the blood white-cell count was 15,000/mm³, hemoglobin was 8,6g/dl, and C-reactive protein plasmatic level was 240 mg/l. Fever was between 37°9 and 39°2 and blood cultures control were negative. We looked for a profound septic focus: cardiac echography was normal. Thoraco-abdominal Computed tomodography (CT) showed a central hypodense mass of the left iliac muscle (Fig. 1) and bilateral pulmonary nodules with pleural thickness (Fig. 2). The patient refused a surgical drainage. A new antibiotherapy was started using Vancomycin and Fosfomycin. Three days later, fever was still between 38°C and 40°C. A control CT showed a larger abscess. A surgical drainage was performed. Culture of the fluid grew *Staphylococcus aureus*. The patient recovered but five days later, lumbar and shoulder pain began to be more important and fever had reappeared. ¹⁹⁹m technetium scanning, left shoulder X-ray and abdominal and lumbar CT were performed. ¹⁹⁹m technetium scanning showed an hyperfixation on left shoulder, left sacroiliac articulation and third lumbar vertebra. Left shoulder X-ray showed bone erosion along synovial membrane and narrowing of the joint space consistant with osteoarthritis. CT showed an erosion on the body of the third lumbar vertebra compatible with spondylitis and an iliac abscess relapse. An other drainage was performed and culture of the fluid grew the same *Staphylococcus aureus* again. Antibiotherapy using Quinolone and Rifampicin was resumed after six months and the patient was doing well but kept sacroiliac pain. CT control performed two months later showed sacroiliac osteolysis (Fig. 4) and progressive improvement of the iliac access and disappearance of pulmonary lesions. The search for an etiology was negative except a chronic prurigo.
Diabetes mellitus, especially if associated with hyperglycemia may impair the function of leukocytes and complement and has been associated with an increase likelihood of several infections [1]. Diabetes mellitus is thus the leading underlying disease of several infections and particular pyogenic psoas abscesses [2]. Most psoas abscesses may be secondary to discitis, urinary tract infection, Crohn’s disease, ulcerative colitis, malignancy or tuberculosis [3]. Differential diagnosis of abscess of the psoas muscle is colocutaneous fistula drained from the retroperitoneal space. One case [4] of this atypical presentation of enterocutaneous fistula is reported in a diabetic patient and seems to be more frequent in immunodeficient patients. Psoas abscess is unusual with 16 cases [3] over a ten-year period in a retrospective study and Staphylococcus aureus is the most common pathogen in several studies [2, 3]. Diagnosis is often difficult as in our case. Duration of symptoms prior to the diagnosis ranges from three days to six months [2]. But symptoms like back pain or fever are often present [5] and can help to think about this unusual pathology which is more frequent in diabetic patients. Imaging plays an important role in determining the exact localization of abscess and in allowing percutaneous drainage to be performed safely. Ultrasonography and CT scanning can be used. In difficult cases, gallium-67 scan may help in the differentiation of psoas abscess from other intra-abdominal lesions or normal bowel distribution and in the detection of unexpected concomitant multiple infectious foci [6]. Indeed, metastatic infection is frequent in staphylococcal infection. S. Aureus has a tendency to spread to the bone joints, kidneys and lungs as reported in our case [7]. Regarding treatments, the sole antibiotherapy is sometimes used but drainage—surgical or percutaneous—besides appropriate antibiotic treatment is still required, as in our case report, to control complex abscesses with sepsis [2].

CONCLUSION

Psoas abscess is an unusual clinical entity that presents diagnostic and therapeutic challenges. Awareness of this disease entity, careful physician examination and appropriate imaging studies are key to making a correct diagnosis. Indeed, Staphylococcus infections—the more frequent microorganism in primary psoas abscess—must be promptly diagnosed and treated to prevent a higher risk of metastatic complications. The interest of this case-report is to show all those diagnostic and therapeutic difficulties.

REFERENCES


