

Bifocal Pyomyositis: An Uncommon Complication in Diabetic Patient

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Abstract Pyomyositis is a severe infectious complication reported in diabetic patients. A double noncontiguous location of this complication is exceptional. We report a case of a 58-year-old woman, who presented with a painful swelling left thigh and arm. The diagnosis of bifocal pyomyositis in the left vastusintermedius quadriceps and in the triceps muscle of the left arm was made on MRI findings. The causative agent was not isolated because of preceding antibiotic use. In this observation diabetes mellitus constitute the aim predisposing factor revealing pyomyositis by ketoacidosis.

Keywords: diabetes, pyomyositis, intramuscular abscess, MRI, ketoacidosis

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1. Introduction

Pyomyositis is a deep bacterial infection of skeletal muscle which can lead to intramuscular abscess. This complication has been described frequently in the tropics [1]. Its incidence in temperate climates has been increased due to infection with the human immunodeficiency virus and diabetes mellitus. These two conditions may constitute the major predisposing factors [2]. In this sense, we report a bifocal pyomyositis described in diabetic patient revealed by ketoacidosis.

2. Case Report

A 58 year-old woman with type 2 diabetes was admitted with a one month history of increasing pain of the left thigh and the left arm. She complained for two months of polyuropolydipsic syndrome, weight loss and weakness. On presentation, the patient was febrile (38.5°C). Physical exam showed a firm and painful swelling of the left thigh with erythema (Figure 1). In the left arm we noticed an indurated painfull mass without erythema. There was no abdominal pain or vomiting.

Laboratory findings shows a high white blood cell count of 17910/mm³, hemoglobin 12.4 g/dL, platelets count 458000/mm³, erythrocyte sedimentation rate 107 mm, C reactive protein: 213 mg/L, serum creatinine: 77µmol/L, serum glucose: 27.5 mmol/L, CPK: 208 U/L, LDH: 265 U/L. The urine dipsticks demonstrate ketosis and glucosuria. Blood gases parameters showed metabolic acidosis: PH: 6.98, PaO₂: 64 mmHg, PCO₂: 27 mmHg, HCO₃⁻: 17 mmol/L. The culture of urine analysis was negative. Three serial blood cultures were negative. Ultrasonography of the painful areas was in favor myositis.



Figure 1. A swollen erythematous thigh

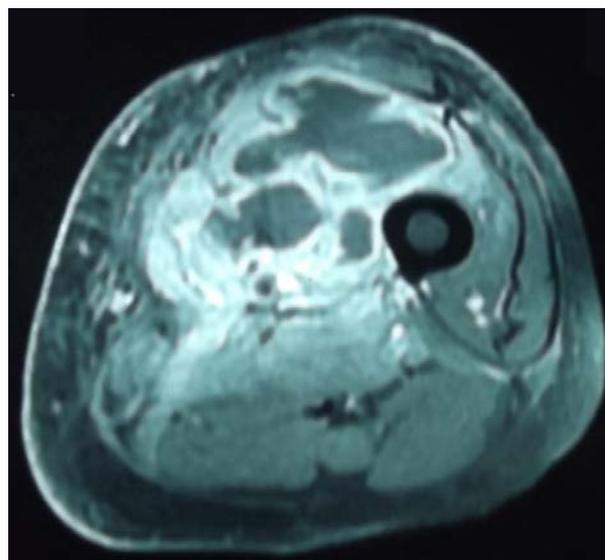


Figure 2. Abscess formation of the quadriceps in the MRI

The MRI revealed 2 areas of high signal changes in the left thigh and the arm. There was a collection in the left

vastusintermedius quadriceps muscle with irregular contours with a peripheral shell enhanced by gadolinium. The collection measured 7.5x6 cm in the axial plane and extends 16.5 cm and it encroaches on the vastusmedialis of the quadriceps in its middle part (Figure 2). The exploration of the left arm showed the same aspect in the triceps muscle with a collection measuring 5x3 cm (Figure 3).

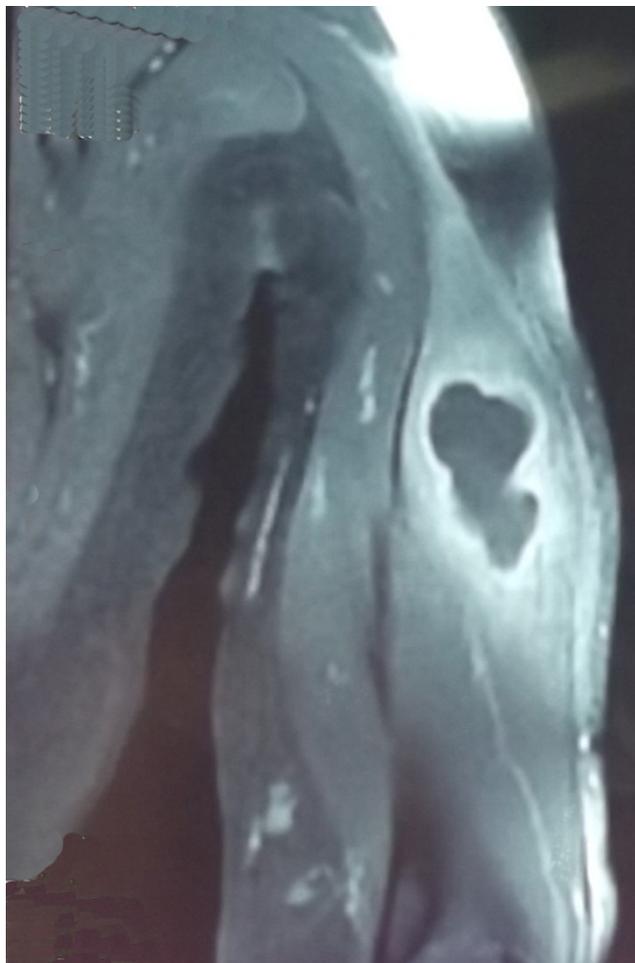


Figure 3. Abscess formation of the triceps in the MRI

The ketonuria responded within 24 h to intravenous insulin. She was given every day 3 g IV Cefotaxim and 400 mg IV Ofloxacin. A surgical treatment was performed. Five hundred milliliter of purulent discharge was evacuated. The muscle biopsy of the quadriceps confirmed the diagnosis of pyomyositis and exclude malignancy. The result of pus culture of the abscess was negative. The diagnosis of diabetic ketoacidosis due to bifocal pyomyositis was retained.

The evolution was favorable under surgical and medical treatment.

3. Discussion

In the literature, the incidence of pyomyositis in diabetic patients has been reported in 8 to 31% of cases [3]. In diabetes, multifocal or bifocal pyomyositis like in our observation is exceptional [4].

Usually, the muscles involved by pyomyositis are those of the pelvic girdle and lower extremities. In the lower extremities, the quadriceps muscles are the most frequently interested [3]. In our case, the abscess was located within the quadriceps muscle and an additional noncontiguous site was found in the triceps muscle.

Staphylococcus aureus is used to be the most common causative agent [5]. Other infectious pathogens can cause muscular abscess like Streptococcus pyogenes, Streptococcus pneumoniae, Escherichia coli, Mycobacterium avium, and gram-negative bacteria [5]. In our case, no pathogen was found probably due to antibiotics.

MRI remains the best means to diagnose pyomyositis at an early stage [3]. Indeed, in our patient soft tissue ultrasound did not show collection.

In the early stage of pyomyositis without abscess formation, medical treatment may be sufficient. In advanced stage, surgical treatment is essential. In our patient, surgical treatment was performed for the collection in the quadriceps. Antibiotherapy, was sufficient for the abscess in the triceps probably due to its little size.

4. Conclusion

In front of painful thigh or leg and painful arm in diabetic patient, we must think about bifocal pyomyositis.

MRI is the best way to recognize this complication early. Good control of diabetes may be the only way to avoid this complication.

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