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CASE REPORT

A Rare Complication of Pyomyositis: Epidural Abscess Secondary to a Sacro-coccygeal Abscess

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ABSTRACT

Pyomyositis (PM) is a rare, sub-acute, deep bacterial infection affecting the skeletal muscle, described for the first time by Scribe in 1885, usually accompanied by single or multiple abscesses. The precise pathogenesis of PM remains unknown. Its rarity is probably related to the high resistance of the skeletal muscle to bacterial infections. Recently, the association between paravertebral PM and epidural abscess has been described. This study aimed to describe the case of a 33-year-old male patient referred to the emergency department for a sacrococcygeal abscess evolving to a paravertebral myositis and further to an epidural abscess. To the best of our knowledge, only one report exists about paravertebral PM complicating a sacrococcygeal cyst, and no cases of association between suppurated sacrococcygeal cyst and epidural abscess have been described before. The case reported in this study shows the possibility of a fearsome evolution of the suppurated sacrococcygeal pilonidal cysts, generally considered a minor disease and rarely worthy of emergency hospitalization.

Key words: *Pyomyositis, Epidural abscess, Sacrococcygeal abscess, Lumbosciatica*

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ÖZET

Piyomiyozitin Nadir Bir Komplikasyonu: Sakrokoksigeal Apseye İkincil Gelişen Epidural Apse

Piyomiyozit (PM) ilk kez 1885 yılında tanımlanmış tek veya çoklu apseler ile seyreden iskelet ve kas sisteminin nadir görülen subakut ve derin bakteriyel enfeksiyonudur. PM'in patogenezi tam olarak bilinmemektedir; fakat kas dokusunun infeksiyona karşı olan yüksek direncinin rol oynadığı düşünülmektedir. Yakın dönemde paravertebral PM ile epidural apseler arasındaki bağlantı gündeme gelmiştir. Bu olgu sunumunda sakrokoksigeal apse (pilondal apse) olarak başlayan, paravertebral PM gelişimine neden olan ve epidural apse oluşmasına sebep olarak acil serviste değerlendirilen 33 yaşında erkek hasta sunulmuştur. Literatürde şu ana kadar sakrokoksigeal kistin (pilonidal kist) infeksiyonuna bağlı gelişen bir paravertebral PM olgusu vardır ve epidural apse gelişimi şu ana kadar rapor edilmemiştir. Bu olgu sunumu ile önemsiz hafif bir hastalık olarak görülen sakrokoksigeal kistin süpüratif infeksiyon sonucu çok korkulan bir komplikasyona gelişebileceği anlatılmaktadır.

Anahtar kelimeler: *Piyomiyozit, epidural apse, lumbosiyatika*

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INTRODUCTION

Pyomyositis (PM) is a sub-acute bacterial infection involving the skeletal muscles. It can occur in a primitive form (rare, more common in tropical climates and so called "tropical myositis") or secondary to inflammatory phenomena of the skin, subcutaneous tissues, or adjacent bone. This study describes a singular case of a sacrococcygeal abscess evolving to a paravertebral myositis and further to an epidural abscess, which has never been described before.

CASE REPORT

A 33-year-old male, with unremarkable past medical history, complained about gradually worsening back pain radiated to the back face of the lower right limb for two weeks. The patient was previously admitted twice to an orthopedic unit, and underwent lumbosacral MRI. He was diagnosed with a right lumbosciatica and discharged with oral therapy with methylprednisolone and semi-rigid brace. After one week, oral indomethacin was added to the therapy due to the persistence of symptoms.

When the patient referred to the Emergency Department of our hospital, he presented a low-grade fever, increased acute-phase reactants (WBC 19.010/mmc, CRP 7.2), redness, and painful swelling in the sacrococcygeal region with purulent secretion. An informed consent was obtained and the abscess was drained of pus and hairs.

A sacrococcygeal spine X-ray was negative for bone lesions. Finally, the patient was admitted to the General Surgery Unit as he was intensely suffering from lumbosciatica with a positive Lasegue manoeuver at 20-30°, and he was unable to walk.

A re-evaluation of the previous MRI pointed out an unrecognized inflammatory bilateral infiltration of the lumbosacral paravertebral muscles. A lumbosacral CT scan showed hypodensity and swelling of paravertebral muscles, consistent with an organized abscess that penetrated the vertebral canal at the lumbosacral junction and invaded the posterior epidural space, causing dural sac compression.

A sacrococcygeal secretion culture revealed Staphylococcus Aureus infection while the needle aspiration of low lipoid material from paravertebral muscles exited in sterile culture. Patient's HIV serology status was negative.

A second MRI demonstrated a bilateral patchy alteration of the paravertebral muscles from L2 to the sacrum on T1 and T2 scans. It also documented the presence of a postero-lateral extradural collection with necrotic components compressing the dural sac and the roots of the cauda equina from L2 to L5-S1 disk (Figure 1,2). The absence of peripheral sensory and motor deficits induced to a conservative approach with antibiotic therapy: first empirical broad-spectrum (Linezolid IV 1200 mg/day and Meropenem IV 2 g/day), then targeted on microbiological findings (Oxacillin IV 12 g/day and Levofloxacin IV 750 mg/day). The intensity of pain and inflammation signs gradually decreased. Clinical and radiological follow-up demonstrated a progressive resolution of the disease. Lumbosacral MRI was repeated on the fifteenth, thirtieth, and ninetieth days.

The sacrococcygeal abscess was medicated until re-epithelialization and complete cleansing of the area. Six months later, an informed consent was obtained and the patient underwent radical excision of the pilonidal cyst with open treatment. The histological report showed fibrosis, hair glands, and rare macrophages.

DISCUSSION

PM is a rare, sub-acute, deep bacterial infection affecting the skeletal muscle, usually accompanied by single or multiple abscesses.

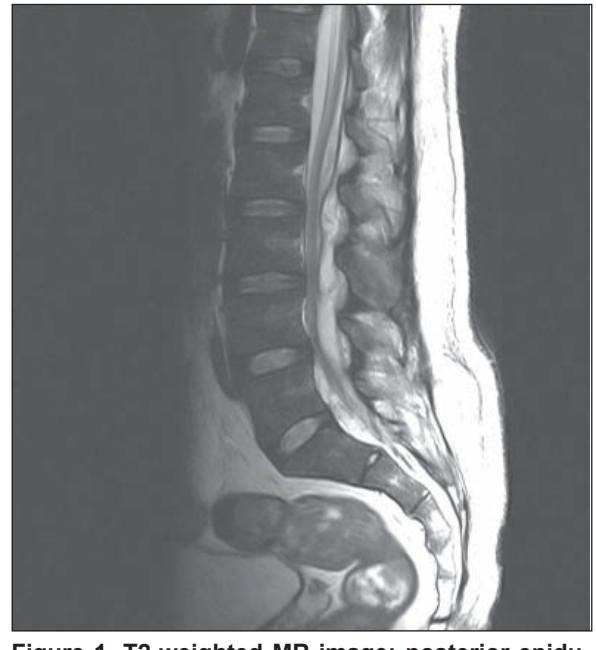

Figure 1. T2-weighted MR image: posterior epidural abscess. Hyper-intense thickening occupies the posterior epidural space displacing ahead the dural sac at the lumbosacral junction level.

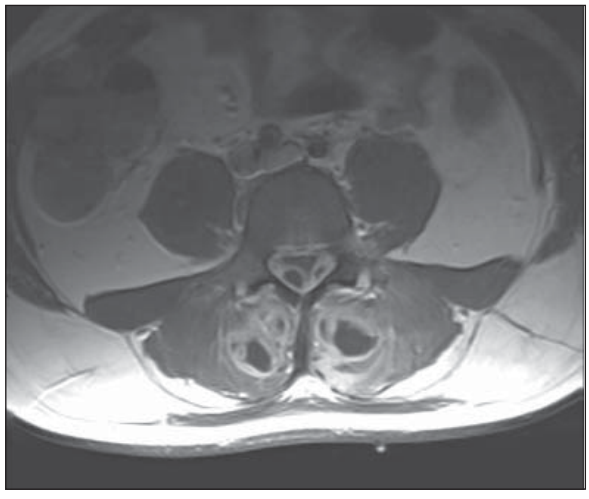

Figure 2. T1-weighted MR image after gadolinium: the bilateral patchy alteration of the paravertebral muscles and the posterior epidural space involvement are evident on the axial scan.

Depending on its etiology, it could be identified a primitive form (which is generally called "tropical myositis") and a secondary form, due to contiguous soft tissue, skin or bones infections. The precise pathogenesis remains unknown. Its rarity is probably related to the muscle high resistance of the skeletal to bacterial infections. The causative agent is *Staphylococcus aureus* in 90% of the tropical forms and in 75% of those extra-tropical[1]. PM is significantly associated with HIV infection[2].

Three developmental stages of the disease are as described:

1. Invasive stage, characterized by sub-acute onset with swelling and pain, fever not always present, weak systemic signs, absence of erythema; the clinical picture is often interpreted as nonspecific pain or fibromyalgia.

2. Suppurative stage, between the second and third week from the onset, with progression to abscess formation into the context of the muscle. High fever and more severe systemic signs are present. The diagnosis is usually made at this stage.

3. Late stage, with progression to the dissemination of the infection, septic shock, multi-organ failure and metastatic abscesses[2].

PM usually involves large muscle groups around the pelvic girdle and lower extremities, but it can involve any muscle group in the body. Multiple group involvement is registered in 12-40% of the cases, either simultaneously or sequentially.

Recently, the association of paravertebral PM and epidural abscess has been described[3,4]. Epidural abscess secondary to PM is probably caused by the direct extension of the pyogenic infection from the affected paraspinal muscle to the adjacent spinal canal through the intervertebral foramen.

To the best of our knowledge, only one report exists about paravertebral PM complicating a sacrococcygeal cyst, and no cases of association between suppurated sacrococcygeal cyst and epidural abscess have been described before[5]. The case reported in this study shows the possibility of a fearsome evolution of the suppurated sacrococcygeal pilonidal cysts, generally considered a minor disease and rarely worthy of emergency hospitalization. The reasons that induced us to an attitude of suspicion were the seriousness and worsening of lumbosciatica symptoms, the increased laboratory indices of inflammation although the cyst was already burrowing at the time of admittance to the Emergency Department, and the deep paravertebral swelling. Once a non-random association between neurological symptoms and suppurative sacrococcygeal inflammation was supposed, the correct diagnostic- therapeutic plan was outlined.

A seemingly banal and common situation, if associated with atypical clinical elements, can hide dangerous pitfalls. An attitude of suspicion and an interdisciplinary approach allowed us to reach the correct definition of the framework. The uniqueness of the event and the initial single-disciplinary management of the symptoms parade resulted in a significant delay in diagnosis and therapy, which could have brought to debilitating consequences.

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