



Epidural and Psoas Abscess, as a Rare Complication of Fournier's Gangrene

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Abstract

Introduction: Due to the low incidence and variable presentation of both, Psoas abscess and epidural abscess, there are often delays in the diagnosis and treatment of this condition. Fournier's gangrene has a low incidence (0.02%) and even less as an etiology of these complications, presenting a not insignificant mortality (7 - 10%).

Clinical Case: A 56-year-old male, obese and chronic alcoholic. At admission, in Glasgow 11, with diagnosis of diabetic ketoacidosis and an increase volume in perianal zone. The CT scan shows a collection 13 x 5 cm, with no other findings. Enter intensive care and need for vasoactive drugs. Being in the 5th surgery, he presents fever, and during the epidural puncture evidence of purulent liquid appears. Cytochemical analysis does not correspond to cephalo-rachis fluid and CT scan shows multiple collections in spine musculature (larger diameter at L3-L4 level 8.4 x 5.3 cm). Magnetic resonance imaging is required, showing an extensive epidural phlegmon from T8 to S2 and both psoas, without neurological deficit. It is performed ATB management of vertebral abscesses, continue perineal surgical management, until complete perianal closure and resolution of abscess.

Discussion: Epidural and psoas abscesses are uncommon, difficult to suspect and even less diagnosed pathologies, associated with Fournier's gangrene. With the presentation of this clinical case, we want to show these pathologies as possible complications of a Fournier, since in the international literature they are not widely described within the complications associated with this one.

Keywords: Fournier s Gangrene; Epidural Abscess; Psoas Abscess; Perianal Volume; Phlegmon

Abbreviations

AP: Psoas Abscess; CTscan: Computed Axial Tomography Scanner

Introduction

Due to the low incidence and variable presentation, with non-specific characteristic that both, psoas abscess (PA) and paraver-

tebral-epidural abscess, there are often delays in the diagnosis and treatment of this condition, which can evolve in serious consequences for the patient, including prolonged sepsis, neurological sequelae, and increased morbidity and mortality [1].

The most frequent causes are those secondary to infectious processes originating in a distant organ that spreads in a hematogenous way [2], which occurs mainly in patients with comorbidities that lead to immunosuppression. The symptoms of both pathologies are very varied from malaise to abdominal or lumbar pain, radicular pain, sensory deficit, neurogenic bladder, paresis of extremities, paralysis and death [1]. The description of these pathologies associated with Fournier gangrene is little described in the literature, so the aim of this publication is to present a case report of epidural-paravertebral and psoas abscess as a rare complication of Fournier gangrene in a diabetic male patient.

Clinical Case

A 56-year-old male patient, obese, with a history of chronic alcoholism, was admitted to the emergency department in Glasgow Scale 11/15 points with high hemoglucotest, observing abundant sero-purulent secretion in the perianal region and a fluctuating area of 5 cm in diameter. With a diagnosis of diabetic ketoacidosis and perianal abscess, he progressed with ventilatory failure, for which he is intubated.

A computed axial tomography (CTscan) of abdomen and pelvis with contrast was requested to rule out other complications, is described a Fournier gangrene secondary to a 13 x 5,2 cm perianal abscess, without other intra-abdominal collections.

The patient entered to emergency surgery and antibiotic therapy was started. Multiple surgical toilets and a sigmoid loop colostomy are performed for wound management. He evolved with a good respiratory response, when he is extubates, only refers to mild lumbar pain.

During the fifth surgical cleaning (19 days hospitalized), in performing spinal anesthesia, purulent fluid leakage was evident. The sample analyzed concludes that it does not correspond to cerebrospinal fluid. A CTscan of the abdomen and pelvis with contrast was requested, where is evidence the presence of multiple collections in the paravertebral muscles, the largest in the level of L3-L4 measuring 8.4 x 5.3 cm. It’s evaluated by neurosurgery, without showing

neurological deficit. A magnetic resonance imaging is requested (Figure 1 and 2), which revealed an aspect of septic facet arthritis in the right L2-L3 vertebral body with right posterior paravertebral abscess, epidural phlegmon in T8 to S2, that deforms and stenoses the thecal sac at level of L2-L3, posterior epidural abscess in L1-L2 and both psoas (26 and 52 mm).



Figure 1 and 2: Sagittal and cross section T2 magnetic resonance imaging. The arrow shows a paravertebral abscess partially drained by a percutaneous drainage, which is visualized below the arrow.

In the interventional radiology, a puncture of the abscess of the right psoas and ipsilateral paravertebral is performed, draining the content almost entirely.

Complete closure of the perianal area is achieved, and the patient evolves without other complications, antibiotic treatment is completing. 3 weeks later control image shows a frank regression of paravertebral and epidural collections, and a completed regression of the psoas abscess. The patient was discharged after 57 days of hospitalization and the colostomy was closed 5 month later.

Discussion

Psoas and vertebral abscesses are small - described complications associated with Fournier gangrene. The PA corresponds to a collection of pus that begins and spread through the iliopsoas muscle and can even reach the inguinal region [3]. As Shields., *et al.* describe PA due to its unique anatomy and proximity to intra and retroperitoneal organs, added to its rich vascularization, is very

susceptible to infections that can spread contiguously (generally to the kidney, spine and guts) or via hematogenous from a distant organ [4,5]. The PA can be classified as primary or secondary according to the identification of a proximal focus. The primary one is more frequent in young patient, under 30 years old (81%), especially men, probably secondary to a hematogenous or lymphatic spread from and infectious process in a distant organ, mainly within medical conditions that can cause immunosuppression [6,7]. In our case, it probably originated from the hematogenous spread of the initial focus, facilitated by the patient's comorbidities, which caused a state of immunodeficiency, evolving with multiple abscesses.

The spinal or epidural abscess was described for the first time in 1761 by Morgagni, as a septic collection of the epidural space [8]. In 1948 Heusner detailed the clinical course of the spinal abscess for the first time, classifying it in 4 stages according to its evolution and clinical commitment. The first corresponds to an intense pain associated with local contracture and fever; the second is characterized by spinal irritation, which is observed clinically with positive meningeal and radicular signs such as Lasegue, Kerning, Lhermitte and Brudzinski; in the third stage, neurological sensory deficits and sphincter alterations stand out, and in the fourth stage, severe motor deficits are observed, that can progress to paraplegia [9]. Therefore, the diagnosis of an epidural and paravertebral abscess is challenging due to the late presentation a nonspecific clinic.

As is described by Reihsaus., *et al.* in a meta-analysis of 915 patients with epidural abscess the most common symptoms are back pain (71%), fever (66%) and paralysis (34%) in later stages [10]. Other reviews describe radicular and abdominal pain, compression symptoms such as motor deficits associated with bladder or bowel dysfunction, and even death [11,12].

It should be noted that no report was found of any cases in which multiple abscesses such as those described here were formed from Fournier gangrene, even more so with the presentation of such an extensive epidural phlegmon associated with an epidural abscesses and lateral PA that has evolved favorable without sequelae, as the patient presented.

Conclusion

The aim of this work is to present a case of a rare complication of Fournier gangrene, which must be taken into consideration,

especially in patients with a morbid pathology that confers some state of immunosuppression, in addition we emphasized the importance of suspected diagnosis in these patients. Patients with mild low back pain or other neurological symptoms, in this way, its torpid evolution and severe neurological sequelae, which could even lead to death, can be avoided with the correct management.

Conflict of Interest

The authors declare don't have conflict of interest.

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