An 81-year-old male with iliopsoas abscess by Streptococcus sanguis

Ascesso dell’ileopsoas da Streptococcus sanguis in un uomo di 81 anni

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INTRODUCTION

Iliopsoas abscess is a clinical condition that is increasing in incidence in many countries [1, 2]. The symptoms may be vague and nonspecific, and the classic triad of fever, flank pain and limitation of movements in the lower limb lacks in the vast majority of the patients [1-5]. Thence, the patients may present clinical features mimicking acute abdominal conditions [4]. The aim is to report the case of an elderly man with a primary iliopsoas abscess by Streptococcus sanguis. This microorganism is a member of the viridans group of streptococci, and usual inhabitant of the mouth, gastrointestinal, genitourinary and respiratory tracts [6-8]. S. sanguis has been rarely associated with endocarditis, osteomyelitis, and meningitis [6-8].

CASE REPORT

An 81-year-old man reported difficulty to performing the extension of the right lower limb for a period of 20 days. On the last two days, he started with fever of 38.7°C and a severe abdominal pain localized in the right flank. He denied previous urinary or intestinal disorders. Physical examination revealed a bilateral inguinal hernia without signs of inflammation, and the lower limb was positioned in a flexed antalgic position, impairing its normal extension. Laboratory data (Table 1) shows anemia, leukocytosis and elevated C-reactive protein (CRP). Main initial diagnostic hypotheses were complicated diverticulitis and acute appendicitis, but the abdominal computerized tomography (CT) showed images in the right iliopsoas consistent with the diagnosis of abscess (Figures 1a, 1b). The patient was submitted to a treatment with ciprofloxacin and metronidazole followed by CT-guided aspiration, a minimally invasive procedure for abscess drainage successfully performed on D4 of admission (Figure 2). The cultures of the abscess aspirate were positive for Streptococcus sanguis, and this agent was sensitive to the initial antibiotic schedule. The patient had a rapid clinical, laboratory and radiological improvement after the antibiotic therapy and drainage (Figures 1c and 1d). Asymptomatic, he was discharged to home on D16, but antibiotics were utilized for 21 days.

DISCUSSION

Currently, pyogenic bacteria and in special Staphylococcus aureus, have been the main agents of iliopsoas abscess [1-5, 9], at least in part because the control of Mycobacterium tuberculosis reduced the spread of tuberculosis to uncommon extra pulmonary sites [1, 3, 9]. Nevertheless, tuberculosis has been growing in number among the elderly individuals, and may evolve with atypical course of miliary dissemi-
An 81-year-old male with iliopsoas abscess by *Streptococcus sanguis*. These muscle abscesses may have two kinds of origin: primary (by hematogenous route) or secondary (by lesions of contiguity) [1-5, 9]. According to the literature, the latter is the most common, and is usually due to adjacent intestinal and genitourinary infections [1-5, 9]. Therefore, the main agents of secondary abscesses include *Escherichia coli*, *Klebsiella spp*, *Bacteroides spp*, and *Streptococcus spp* [1-5, 9]. The diagnosis depends on a high clinical

Table 1 - Blood determinations from an 81-old-male with iliopsoas abscess by *Streptococcus sanguis*.

<table>
<thead>
<tr>
<th>Parameters</th>
<th>*Day 1</th>
<th>*Day 6</th>
<th>*Day 8</th>
<th>*Day 12</th>
<th>*Day 16</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hemoglobin (13.5-18 g/dL)</td>
<td>12.7</td>
<td>12.3</td>
<td>13.4</td>
<td>13.4</td>
<td>13.8</td>
</tr>
<tr>
<td>Hematocrit (42-52%)</td>
<td>36.3</td>
<td>35.2</td>
<td>38.2</td>
<td>39.5</td>
<td>41.5</td>
</tr>
<tr>
<td>WBC (4-11x10⁹/L)</td>
<td>13.8</td>
<td>10.4</td>
<td>8.9</td>
<td>5.9</td>
<td>5.6</td>
</tr>
<tr>
<td>WBC percent</td>
<td>2,890,1,5,3</td>
<td>2,760,0,16,6</td>
<td>2,810,0,13,4</td>
<td>0,731,0,21,5</td>
<td>1,680,0,26,5</td>
</tr>
<tr>
<td>Platelets (150-400x10⁹/L)</td>
<td>371</td>
<td>386</td>
<td>449</td>
<td>408</td>
<td>316</td>
</tr>
<tr>
<td>Na (135-145 mEq/L)</td>
<td>138</td>
<td>141</td>
<td>137</td>
<td>143</td>
<td>142</td>
</tr>
<tr>
<td>K (3.5-5.2 mEq/L)</td>
<td>4.9</td>
<td>4.5</td>
<td>5.2</td>
<td>4.8</td>
<td>4.8</td>
</tr>
<tr>
<td>Urea (10-50 mg/dL)</td>
<td>46</td>
<td>50</td>
<td>23</td>
<td>29</td>
<td>28</td>
</tr>
<tr>
<td>Creatinine (0.7-1.3 mg/dL)</td>
<td>0.9</td>
<td>0.9</td>
<td>0.9</td>
<td>0.8</td>
<td>1.0</td>
</tr>
<tr>
<td>CRP (0.5-0.9 mg/dL)</td>
<td>9.1</td>
<td>5.7</td>
<td>4.2</td>
<td>0.6</td>
<td>0.3</td>
</tr>
</tbody>
</table>

*Day of evolution since admission (December 02, 2012). WBC: leukocyte data (normal ranges): bands (0-5%), segmented (45-70%), eosinophils (0-7%), basophils (0-3%), lymphocytes (20-50%), monocytes (2-10%). CRP: C-reactive protein. Main changes are showed in bold.

Figure 1 - Abdominal CT with contrast in the venous phase. a: Coronal reconstruction showing a well-defined hypodense image in the right iliopsoas (white arrow); b: Axial plan showing the hypodense image (white arrow); c: Coronal reconstruction with images of control done 8 days after the initial exam and 4 days after drainage; d: Axial reconstruction showing the reduction of the hypodense image, with a small residue post drainage (black arrows).
Figure 2 - CT scan without contrast medium, with the patient in left oblique position. a: Axial image of the metal skin markers of the depth and the distance from the spinous process; b: Axial image of the needle partially observed in the hipodense lesion of the right iliopsoas; c: Oblique reconstruction showing the entire length of the needle; d: Axial image after drainage, showing small amount of gas in the iliopsoas (white arrow) and right paraspinal musculature.

suspicion, and is made by viewing the image of the abscess in CT scans of abdomen [1-5, 9]. The most characteristic feature of CT is a hypodense image and the presence of gas in the iliopsoas muscle, in addition to enhancement of the rim of the abscess with contrast [2-5]. Moreover, TC images of control are useful to confirm the improvement after treatment [1, 2]. The estimated incidence of the primary abscesses ranges from 2.5 to 12 cases per year [2, 4]. Bilateral iliopsoas abscesses were disclosed in 19% of 42 patients reviewed in Hong Kong by Wong et al., and the overall in-hospital mortality rate reported by these authors was 14% [5]. Sílvá et al. reported iliopsoas abscess by tuberculosis in a man with HIV infection, and emphasized that bone dissemination of tuberculosis may occur in up to 60% of the cases [2]. CRP and erythrocyte sedimentation rate (ESR) were markers of inflammatory response [2]. They comment that mortality differs between primary (2.4%) and secondary (19%) cases [2]. Singal et al. described bilateral iliopsoas abscesses in a 15-year-old woman claiming of abdominal pain and distension, fever and vomiting, and presenting leukocytosis and elevated ESR; worthy of note, the giant primary abscesses were found masquerading as peritonitis [4]. The management of patients in-
An 81-year-old male with iliopsoas abscess by *Streptococcus sanguis* includes antibiotic therapy and drainage procedures [1-5, 9]. Important is to investigate conditions that may predispose or give origin to this disease, like diabetes, long-term steroid therapy, chronic hepatitis, cirrhosis, malignancies, intravenous drug addiction, HIV infection, local trauma, spondylodiscitis and osteomyelitis [1-5, 9]. Iliopsoas abscess and spondylodiscitis by *S. aureus* were described by dos Santos et al. in a man with anemia, leucocytosis, hyponatremia, hypoalbuminemia and elevated CRP [1]. Findings indicative of acute phase response were also reported by Lee et al. in a man with bilateral iliopsoas abscesses, spondylodiscitis, and malleolar osteomyelitis by *S. aureus* [3]. Both case studies focused the possibility of a hematogenous route for muscle infection [1, 3]. Initially, a major concern in the present case was about the hypothesis of tuberculous spondylitis causing lumbar pain and associated changes involving the lower extremity; in fact, this kind of symptom is very common among elderly people and may be underestimated [10]. Namisato et al. described a 78-year-old woman with afebrile miliary tuberculosis causing lumbar pain due to spondylitis and iliopsoas abscess. Her laboratory data showed anemia, hypokalemia, hypoalbuminemia, and elevated CRP, but the leukocyte count was normal [10]. Additional concern in the patient herein reported was the association of infective endocarditis, because of the etiologic role played by *Streptococcus sanguis*, a member of the viridans group of streptococci and inhabitant of the normal flora of the mouth and upper respiratory tract [8]. Yagci et al. studied the prevalence of bacteremia in 29 orthodontic patients (18.2±3.4 years) and concluded that *S. sanguis* can be associated with development of infective endocarditis [8]. This hypothesis was ruled out by the normal images of the transesophageal echocardiography. Worthy of note is that the iliopsoas abscess may develop unsuspected for long periods, or present with clinical features that mimics some more frequent cause of acute abdomen [3, 5]. The main symptoms at presentation are pain (back, hip or thigh) in 43% and fever in 41% [5]. The duration of symptoms before admission can be quite variable, ranging from 1 day (27%) to 3 months (16%); however, durations between 2 to 7 days may occur in 46% of cases [5]. These diagnostic challenges can difficult the establishment of diagnosis and prompt therapy. Abdominal imaging studies constitute the best tool to establish the diagnosis of the abscesses, radiography, ultrasound scan, magnetic resonance and CT, by crescent order of usefulness [2]. The authors believe that case studies might contribute to enhance the suspicion index about this uncommon, but potentially severe condition whether the diagnosis is established too late.

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**Keywords:** iliopsoas abscess, streptococcal infections/complications, *Streptococcus sanguis*.

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**SUMMARY**

Iliopsoas muscle abscess is an uncommon condition, which has been growing in incidence. We describe a primary iliopsoas abscess by *Streptococcus sanguis* affecting an 81-year-old man cured by antibiotic therapy and aspiration procedure.

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**RIASSUNTO**

L’ascesso del muscolo ileopsoas è una condizione clinica poco frequente la cui incidenza sta però aumentando. Descriviamo il caso clinico di un uomo di 81 anni con ascesso primario dell’ileo-poas da Streptococcus sanguis guarito grazie a terapia antibiotica e procedura di aspirazione.

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REFERENCES