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Pelvic actinomycosis secondary to an intrauterine device

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Keywords: Pelvic tumor mass. Pelvic actinomycosis. Actinomycosis due to intrauterine device.

Dear Editor,

The patient, a 49-year-old female with an intrauterine device (IUD) since 2016, presented in 2022 with a left gluteal abscess initially treated with drainage and antibiotics. Despite daily care, her condition did not improve. Colonoscopy, computed tomography (CT) scan and magnetic resonance imaging (MRI) revealed images suggestive of an inflammatory process

with an abscess or a mixoinflammatory fibroblastic syndrome extending into the left leg, resembling a tumor mass. Biopsy results showed fibroadipose tissue with inflammation.

Subsequently, she returned due to four days of fever, pain, and functional impairment of the left leg. On examination, there was an increase in soft tissue volume, inflammation and abscess formation with central fluctuation at the root of the thigh. An urgent CT scan (Fig. 1) described an increase in presacral soft tissue with involvement of the adnexal, retroperitoneal, gluteal, adductor and ischiocrurale regions with cutaneous extension, suggestive of an inflammatory-infectious process without ruling out neoplastic formation.

Surgical drainage and biopsies were performed, revealing granulation tissue with colonies of *Actinomyces israelii.* The IUD was removed and the culture confirmed *Actinomyces israelii.* Treatment with 20 MU/day of sodium penicillin G resulted in a positive response after completing the antibiotic course.

Thus, we are dealing with an aggressive, inflammatory/infectious etiology that showed slow evolution despite broad-spectrum antibiotic treatment and surgical drainage. This situation might suggest an underlying neoplastic process, although the presence of the IUD alerts us to consider an *Actinomyces*-generated infectious process as a differential diagnosis.

Discussion

Pelvic actinomycosis is a rare infection often stemming from localized extension of an intra-abdominal infection, particularly in females using long-term IUDs (> 4 years) (1), which foster microbial growth. Additionally, the IUD alters carbohydrate metabolism in endometrial cells, promoting inflammation. Another pathway involves the perineum, where microorganisms could spread from the anus to the cervicovaginal area (2,3). Actinomyces is part of the normal vaginal flora; its presence without symptoms does not mandate eradication or IUD removal.

It presents with nonspecific signs and symptoms, leading to delayed diagnosis and the development of masses mimicking soft tissue tumors. Definitive diagnosis usually occurs after surgery, with pathological findings revealing the presence of the microorganism. Ultrasound, CT scans or MRIs often confirm the presence of a pseudotumor but cannot definitively rule out malignancy (4). Early diagnosis is challenging as symptoms manifest in advanced stages.

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Treatment involves a combination of surgical intervention (abscess drainage with biopsies) and high-dose intravenous sodium penicillin G for 2-6 weeks, followed by oral penicillin or amoxicillin for six months (5).

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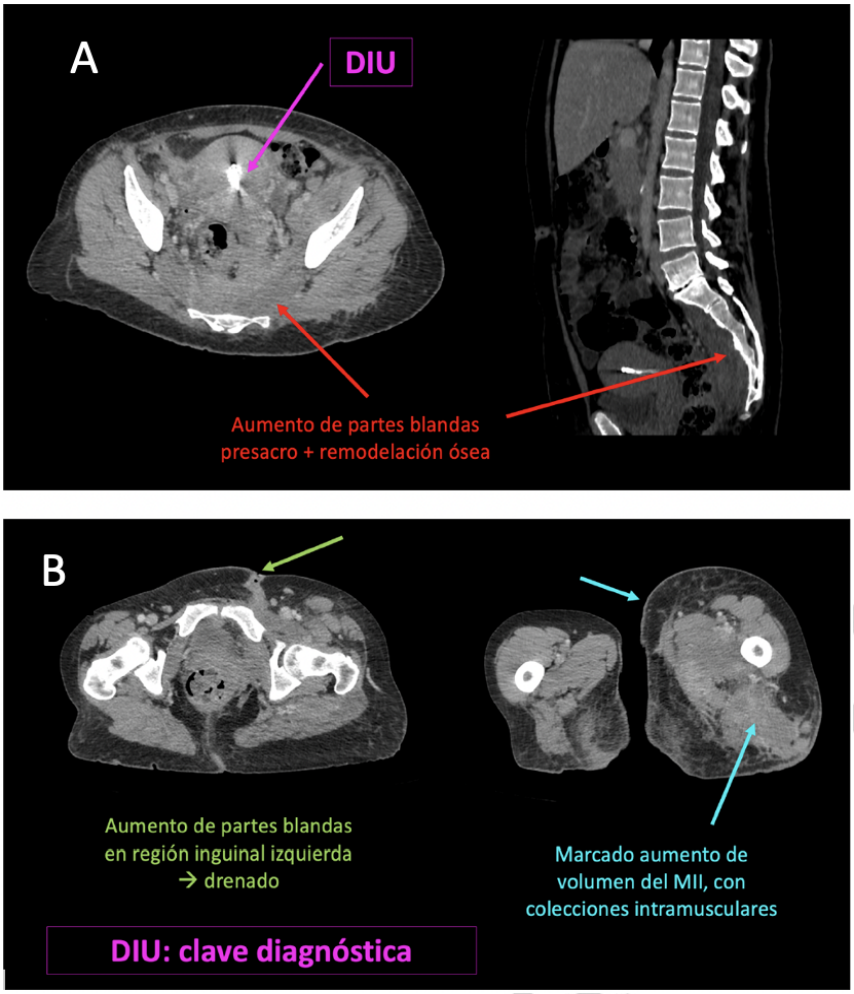

Fig. 1. A. Axial computed tomography (CT) scan in the portal phase showing the presence of an intrauterine device (IUD) and demonstrating increased presacral soft tissue, causing visible bone remodeling also observed in sagittal section, indicating a long-standing process. B. Axial CT scans in portal phase at the pelvic and proximal thigh levels revealing increased soft tissue in the left inguinal region, already drained (purulent content), as well as significant enlargement of the left thigh compared to the contralateral side, with multiple poorly defined margin collections within the muscle thickness (suggestive of abscesses).