Pelvic actinomycosis: abdominal mass caused by a forgotten IUD

Mafalda Laranjo ,[1] Ana Mesquita Varejão,[1] Patricia Costa ,[2] Catarina Peixinho [1]

[1]Obstetrics and Gynaecology, Hospital Pedro Hispano, Matosinhos, Portugal
[2]Imagiology, Hospital Pedro Hispano, Matosinhos, Portugal

Correspondence to
Dr Mafalda Laranjo; mafalda.laranjo92@gmail.com

Accepted 14 June 2022

DESCRIPTION

A woman in her 60s, with cardiovascular risk factors and previous acute myocardial infarction, went to the emergency department with a painful abdominal mass in the right lower quadrant. Additionally, the patient reported asthenia, weight loss and anorexia. The tumefaction had a tubular shape, measuring 20 × 10 cm, with elastic consistency, and regular contours. The mass was painful on palpation but no inflammatory signs were present. Blood tests showed anaemia (10.3 g/dL), leucocytosis (20.25×10^3/µL), increased C reactive protein (263.6 mg/L) and negative tumour markers. Gynaecological examination revealed purulent discharge, an intrauterine device (IUD), which the patient did not remember having, and painful uterus mobilisation. The patient underwent a contrast-enhanced CT that showed a heterogeneous collection with peripheral enhancement in the right lower abdominal wall, suggestive of an abscess, measuring 13 × 5 × 13 cm. Moreover, the image showed densification of fat planes in the pelvis, involving different compartments and crossing fascial boundaries, as well as complex cystic mass in the left adnexa topography, suggesting pelvic inflammatory disease with probable tubo-ovarian abscess (figure 1). An MRI was performed which further revealed a small collection in the vesicouterine space with involvement of the bladder dome (figure 2). Furthermore, it identified an enhanced infiltrative 'mass' of difficult delimitation, with small areas of liquefaction, centred to the right-side of the pelvis, extending from the right adnexa to the anterior abdominal wall, in continuity with the abdominal wall collection.

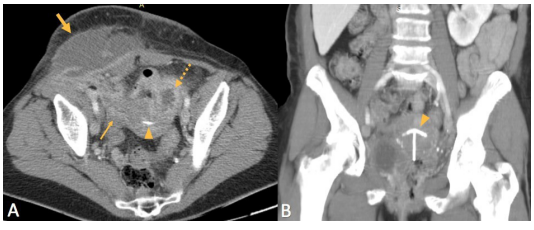

Figure 1 Contrast-enhanced pelvic CT in the axial plane (A) and coronal maximum intensity projection reconstruction (B)—large collection in the abdominal wall (thick arrow), which appears to be in continuity with the intra-abdominal cavity and the right adnexa, which is ill-defined and has adjacent fat stranding (thin arrow). Enlarged left adnexa, with a central area of fluid density, suggestive of a tubo-ovarian abscess (discontinuous arrow). An intrauterine device (IUD) is seen in the endometrial cavity (arrowhead). There are no signs of ascites.

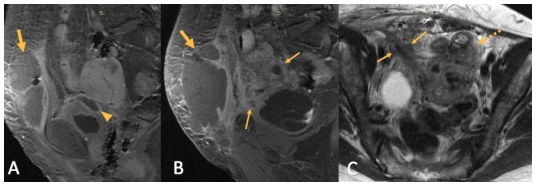

Figure 2 Sagittal median (A) and right paramedian (B) contrast-enhanced T1-weighted images (WI) with fat saturation and axial T2-WI (C) —large fluid collection in the anterior abdominal wall with peripheral enhancement (thick arrows), in clear continuity with intra-abdominal inflammatory changes (thin arrows) that progress through the round ligament and encompass right adnexa. The presence of a tubo-ovarian abscess is confirmed (discontinuous arrow). Another fluid collection in the bladder dome, not recognised in CT images, is now well depicted (arrowhead).

Ultrasound-guided drainage of the abdominal wall collection was performed, with thick, purulent content outflow. Cytological examination showed an inflammatory background, necrosis and the presence of structures characteristic of Actinomyces.

The patient started inpatient treatment with intravenous amoxicillin and clavulanic acid for 21 days and continued the treatment at home for 6 months.

Actinomycosis is a chronic granulomatous infection caused by Actinomyces, a gram-positive anaerobic filamentous bacterium, present in the microbial flora of the oral cavity, gastrointestinal and urogenital tracts. Infection by this microorganism is uncommon and must be associated with damage to the mucosal barrier.[1] The urogenital tract is the second most affected, and its main clinical manifestation is pelvic actinomycosis in women with IUD.[2]

The disease is characterised by an indolent course, with symptoms like fatigue, weight loss, abdominal pain and fever. On examination, palpable masses, abscesses or fistulae may be present. Analytically, anaemia and elevation of inflammatory parameters are often present.[3 4] On imaging exams, it is characterised by an infiltrative lesion, with areas of liquefaction, that typically crosses anatomical barriers, such as fascial planes. Fistulisation to the abdominal wall is a complication described in the literature.[5]

The non-specific clinical picture leads to the evaluation of more frequent diagnostic hypotheses,

To cite: Laranjo M, Varejão AM, Costa P, *et al*. *BMJ Case Rep* 2022;**15**:e251392. doi:10.1136/bcr-2022-251392

such as Crohn's disease, tuberculosis or neoplasia, often leading to delays in diagnosis.[6] The treatment of choice is high-dose penicillin, which can last up to 6–12 months.[3 4]

This case reports a rare form of pelvic Actinomyces infection with involvement of different compartments. The diagnosis is usually delayed due to non-specific clinical and imagiological presentation. It is important to be aware of this condition as a differential diagnosis so that appropriate treatment can be done as soon as possible.

Learning points

- Actinomycosis should be a differential diagnosis in cases of pelvic mass in women with intrauterine device.
- Prolonged antibiotic therapy is needed for this kind of infection.

Contributors ML and PC were directly responsible for the initial diagnosis. AMV, ML and CP were all involved in the follow-up of the patient. All authors were major contributors in writing the manuscript. All authors read and approved the final manuscript.

Funding The authors have not declared a specific grant for this research from any funding agency in the public, commercial or not-for-profit sectors.

Competing interests None declared.

Patient consent for publication Consent obtained directly from patient(s).

Provenance and peer review Not commissioned; externally peer reviewed.

Case reports provide a valuable learning resource for the scientific community and can indicate areas of interest for future research. They should not be used in isolation to guide treatment choices or public health policy.

ORCID iDs
Mafalda Laranjo http://orcid.org/0000-0002-3604-1918
Patricia Costa http://orcid.org/0000-0003-2070-9255
Catarina Peixinho http://orcid.org/0000-0001-5227-612X

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