Journal of Medical Diagnostic Methods
ISSN: 2168-9784

Tholozan et al., J Med Diagn Meth 2014, 3:1
DOI: 10.4172/2168-9784.1000149

Case Report Open Access

Secondary Psoas Actinomycosis: A Complication of an Intra-Uterine Contraceptive Device

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Abstract

Genito-pelvic actinomycosis is a rare condition that can be challenging to diagnose. It often occurs following long-term usage of Intra-Uterine Contraceptive Devices (IUCDs). The condition can be found at various anatomical levels but its presence in the psoas muscle is extremely rare. We report a case of a secondary psoas abscess which occurred in a 53 year old patient, three months after the removal of an IUCD that had been in situ for 8 years previously, and was associated with a severe infection. The initial management included drainage of the abscess and the upper urinary system followed by laparotomy. The time lapse between removal of the IUCD and onset of symptoms, lack of genitourinary infection and finally the delay of microbiological diagnosis contributed towards the difficulties in making this diagnosis.

Introduction

Genito-pelvic actinomycosis represents about 5% of cases of actinomycoses [1,2]. It is a suppurative infection most often occurring secondary to the use of intra-uterine contraceptive devices (IUCDs) [2-5]. The other causes of abdomen's actinomycose are: Immuodeficience, a digestive surgery, a traumatism. There are multiple clinical presentations of pelvic actinomycoses but they are rarely localised to the psoas. We report a case of a secondary psoas abscess following the removal of an IUCD that was associated with severe sepsis and symptoms suggestive of a tumour with compression of the ureter.

Case Details

A 53 year old patient was admitted with severe sepsis and abdominal pain. She suffered from type 2 diabetes mellitus but did not have any other significant past medical history. She presented with a progressive history of general malaise, 5 kg weight loss, fever, right-sided lumbar pain and reduced sensation and power of the right lower limb. On further questioning, she confirmed that a copper IUCD had been removed three months previously. The IUCD had been in situ for 8 years. On admission, she had a temperature of 40°C and pain on examining the right lumbar fossa. She had diffuse and painful thickening of the right lateral pelvis on vaginal examination. Blood tests showed raised white cell count (19000 g/L), an inflammatory picture (ESR 120 mm/h, CRP 46 mg/L), and a coagulopathy with prothrombin rate of 25%. An abdominopelvic CT scan showed inflammation in the superior pelvic and retroperitoneal regions affecting the psoas without any evidence of collections. There was also dilatation of the upper urinary (ureter and kidney) system not known yet. Initially, urinary drainage was achieved by a JJ ureteral endoprosthesis to save the kidney and a posterior colpotomy under echographic guidance to help with aspiration of 5 ml of purulent liquid to treat the infection. The patient was started on intravenous antibiotic therapy comprising rovamycin, tazocin and ciprofloxacin whilst awaiting microbiological results. Clinical progression was suspected due to evidence of continuing sepsis, namely raised temperature of 40°C alternating with episodes of chills, and that the abdominopelvic pain was not associated with any signs of peritonitis. On the third day she had a repeat CT scan. This scan showed progression of psoas inflammation consistent with abscess formation (Figure 1). A secondary surgical procedure was arranged for the fourth day. Laparotomy was considered as a secondary option in view of the coagulation deficits caused by the severe sepsis. Exploration

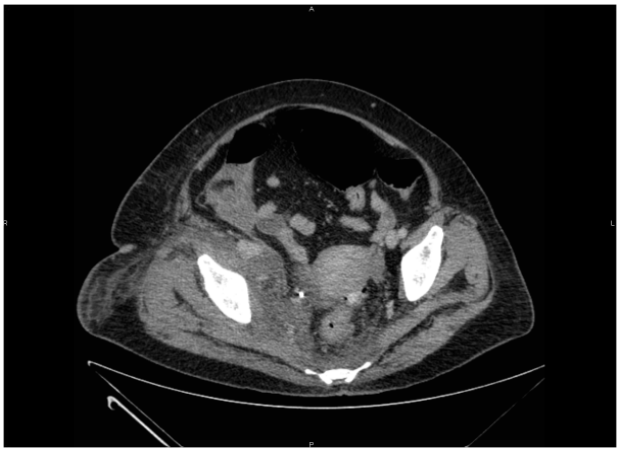

Figure 1: Psoas actinomycosis cellulitis with collection. JJ in the right urinary tract.

of the abdominopelvic cavity did not reveal any abnormalities, in particular near the genito-urinary system. Retroperitoneal thickening of the superior pelvic region was noted opposite the right psoas muscle. Incision of this thickening resulted in the removal of 40-50 ml of a suppurative collection. There was inflammation of the organs over the length of the external right iliac axis. Drainage of the abscess was carried out via an external blade at the level of the vagina by a posterior colpocoeliolotomy. An efficient drainage was installed into the abcess lodge. Bacterial culture was positive for Actinomyces israelii after 15

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Received July 16, 2013; **Accepted** January 02, 2014; **Published** January 10, 2014

Citation: Tholozan AS, Terzibachian JJ, Juniat V, Bourtembourg A, Leung F, et al. (2014) Secondary Psoas Actinomycosis: A Complication of an Intra-Uterine Contraceptive Device. J Med Diagn Meth 2: 149. doi: 10.4172/2168-9784.1000149

days of incubation. The patient improved clinically. She was apyrexial at day 5 and her neurological symptoms resolved. Inflammatory markers returned to normal and coagulopathy resolved on the 20th day. She was switched to oral coamoxiclav for 6 months. Following treatment, she has not suffered from any further symptoms or CT abnormalities.

Discussion

Actinomycoses is a granulomatous infection caused by actinomycetes, of which the most common is Actinomycesisraelii. It is a Gram-positive, anaerobic bacterium, a saprophyte found in the buccal cavity, oropharyngeal mucosa, and the tracheobronchial airways, the digestive system, and the female genitourinary tract. The bacteria can become pathogenic in the presence of mucosal lesions. Pelvic infections are rare and account for less than 5% of cases of actinomycoses [2,6]. This bacterium does not usually cross the mucosal barrier, but it can do so in the presence of a lesion induced by an IUCD, which can lead to inflammation, erosion and focal necrosis, in turn leading to subacute or chronic infection in the presence of other pathogenic bacteria [7,8]. This histopathological mechanism of migration is thus linked to a mucosal break from prolonged use of an IUCD, or by trauma caused during its insertion or removal [1,5,9]. There does not appear to be any differences between the types of IUCDs [1]. In 1973, Henderson was the first to describe the causal link between use of the IUCD and the development of a pelvic Actinomyces abscess [3]. Hepatic and pulmonary involvement demonstrates that the infection can be spread via the lymphatic and haematological systems, and not solely by direct invasion [10,11]. In our case, absence of anomalies at the genital system and inflammation of the organs over the length of the external right iliac axis suggest that the infection was spread via the lymphatic system.

Genitopelvic actinomycosis is characterised by an important variety of anatomical and clinical presentations. They comprise a change in the patient's general condition, a subclinical or chronic picture of a deep pelvic infection, sometimes symptoms and signs of a compressive tumour at the level of the gastrointestinal or urinary system, and a picture suggestive of a peritoneal malignancy [1,8,12,13]. Psoas actinomycosis is extremely rare and only five cases have been reported [14-18]. Amongst these, only one was secondary to an IUCD: Stutz reported the case of a patient who had an IUCD in situ for 10 years who had a similar clinical presentation to ours, but the difference was that our case demonstrated the condition at the level of the trunk [15].

As with all cases of actinomycoses abscesses, a primary surgical intervention should not be considered unless dictated by the clinical picture. The intervention should be simple: minimising, washing and drainage of the collection, with resection in exceptional cases. Surgery can be difficult and it is not without significant morbidity. A delayed secondary surgical intervention is used for failed medical therapy. It can be carried out if there is insufficient drainage and a laparotomy is often needed, as in our case that was associated with severe sepsis and coagulopathy [1,8,19]. The choice of drainage by colpocoeliotomy was used in view of the downward slope of the pelvis.

Conclusion

The difficult combination of clinical variability of genitopelvic actinomycosis constrained by microbiological diagnosis explains the frequent delay in diagnosis. It is therefore important to consider this in the differential diagnosis when there is a history of IUCD usage. Secondary psoas actinomycosis is rare. Our case is distinguished by the absence of an infection elsewhere in the genital system and a mode of dissemination which was probably lymphatic. When faced with secondary psoas abscess, as with all forms of actinomycosis, it is appropriate to define an efficient and minimally invasive management plan.

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