

Tube-ovarian abscess secondary to actinomycosis: unexpected presentation and its treatment

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Abstract This is a case of an ovarian actinomycosis diagnosed as a complex ovarian cyst by ultrasound in asymptomatic patient. The ovarian tumour markers were within normal. The tube and ovary were removed laparoscopically. She received 2 weeks of daily IV 1 g of ceftriaxone, followed by 6 months of oral amoxicillin. CT scan did not show evidence of actinomycosis elsewhere. She did not give any history of intrauterine contraceptive use.

Keywords Actinomycosis · Intrauterine device ·
Tubo-ovarian abscess

Introduction

Actinomycosis is an uncommon, chronic granulomatous disease caused by filamentous, gram-positive, non-spore-forming anaerobic or microaerophilic bacteria. *Actinomyces israelii* is the major human pathogen [1].

Actinomycetes are commensal inhabitants of the oral cavity and intestinal tract [2], but acquire pathogenicity through invasion of breached or necrotic tissue. As the infection progresses, granulomatous tissue, extensive reactive fibrosis and necrosis, abscesses, draining sinuses and fistulas are formed [3]. The disease tends to spread by contiguity. Lymphadenopathy is not a clinical feature. Haematogenous dissemination is also rare [4]. Pelvic actinomycosis is typically associated with the use of intrauterine device (IUD) [5–12].

Case presentation

A 31-year-old lady was referred to the gynaecology clinic because of an ultrasound finding of a complex right ovarian cyst of 54×49×45 mm (Fig. 1). The ultrasound was performed because of the past history of severe right iliac fossa pain which lasted only for a day and subsided completely after. The ovarian tumour markers (CA125, CA19-9, CEA, BHCG, lactic dehydrogenase, alpha feto protein) were within normal values. She has only one child whom she delivered vaginally. The combined pills were her method for contraception. She had no previous history of use of intrauterine contraceptive device. All her previous cervical smears were negative and none of them showed actinomycosis. Preoperative full blood count revealed normal white cell count. Laparoscopy showed signs of pelvic infection in the form of omental adhesions to the anterior parietal peritoneum and adhesions between the liver and the diaphragm (Fitz Hugh Curtis syndrome). There was right adnexal mass. The ovary could not be visualized separate from the mass. This picture was suggestive of chronic inflammatory mass. The right adnexal mass was removed intact through the laparoscopic Endo Catch. The cyst contained yellowish thick material.

The histology report (Figs. 2, 3 and 4) came as right tubo-ovarian abscess with actinomyces like organisms. Daily intravenous ceftriaxone (1 g) were given through a long line for 2 weeks. This is followed by 6 months of oral amoxicillin.

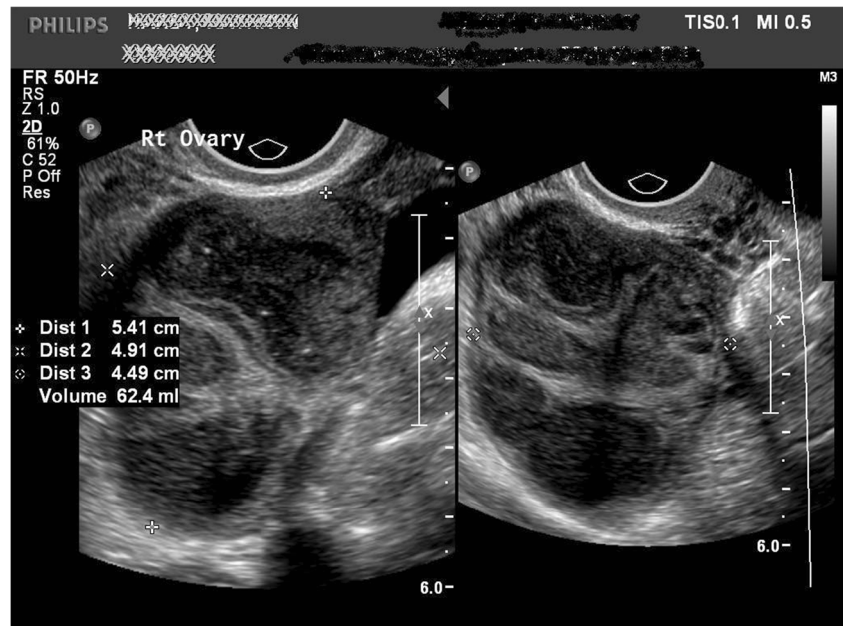
Postoperative CT scan did not show any other lesion in the abdomen or the pelvis.

Discussion

Ovarian actinomycosis is rare because the structure of the ovary is resistant to surrounding inflammatory disease [13]. It has been assumed that bacteria enter the ovary when the

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Fig. 1 Ultrasound images of the tubo-ovarian abscess



surface is broken by the process of ovulation. Timely detection and treatment prevents complications such as pelvic actinomycotic masses leading to frozen pelvis. A delay in diagnosis can even be fatal [14]. Direct extension from established ileocaecal actinomycosis was believed to involve the female genital tract [15].

Computed tomography is the most useful imaging modality. It determines the location and extent of the disease, occasionally contributes to an accurate preoperative diagnosis through fine needle aspiration and is used for monitoring the radiologic response to treatment on follow-up examinations [16].

Although actinomycetes are sensitive to penicillin, surgery is usually performed to eradicate the inflammatory process [17]. The usual recommended antibiotic regimen is intravenous penicillin G (18–24 million

units/day) for 2–6 weeks, followed by oral penicillin or amoxicillin for 6–12 months [18].

In this case, there were no clinical features to suggest that the adnexal mass is an ovarian abscess. CT/MRI scan has not been done initially, as the tumour markers were normal. However, preoperative diagnosis of an ovarian abscess by CT/MRI scan may help to speed the surgery. The laparoscopic findings of omental and liver adhesions were suggestive of pelvic infection. It is very difficult to know how she gets infected with actinomycosis as there was no history of IUD use or ileocaecal disease. Postoperative CT scan was requested to exclude any hidden source of actinomycosis. Long-term treatment of penicillin was required to minimize the recurrence of actinomycosis and to treat other unrecognized source.

Very few cases of ovarian actinomycosis without a previous history of IUD have been reported [19–21].

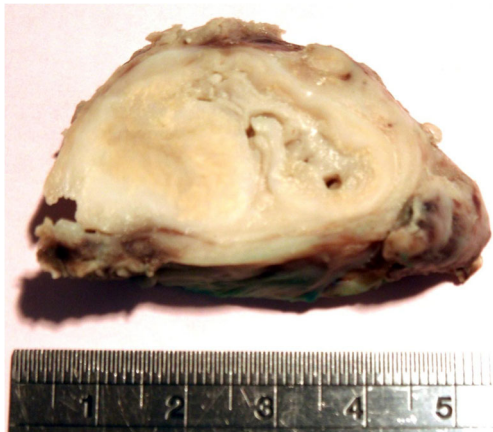


Fig. 2 The tubo-ovarian abscess after surgical removal

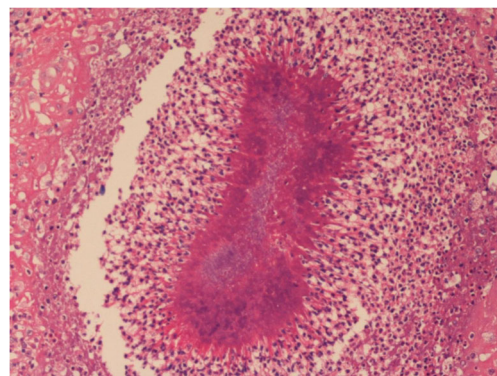


Fig. 3 Microscopy. Actinomycosis. H&E $\times 400$

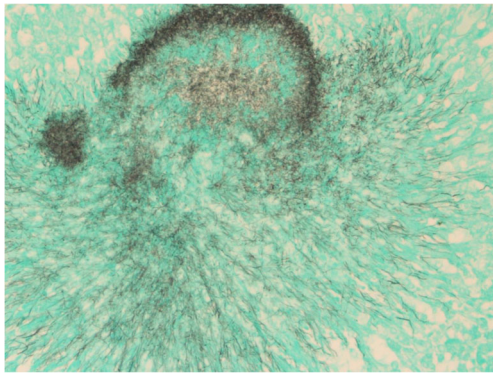


Fig. 4 Microscopy. Actinomycosis. Grocott silver $\times 400$

Conclusion

Tube-ovarian actinomycosis was diagnosed in a healthy woman who had never used the intrauterine contraceptive device and with no past history of pelvic infection. Treatment of actinomycosis consists of adequate surgery, such as drainage of the abscess and reduction of infected tissue and long-term antibiotic therapy.

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Conflict of interest Magdy Moustafa declares that he has no conflict of interest.

Informed consent was obtained from the patient for which identifying information is included in this article.

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