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Ovarian tumour: It's more than a cancer – A case report

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ABSTRACT

Mycobacterium tuberculosis spread from the external genitalia into the pelvic cavity mainly via hematogenous spread. Pelvic tuberculosis can be asymptomatic or remained unrecognized or mimics other gynaecological pathology. We illustrate a case of pelvic tuberculosis which was diagnosed retrospectively, whereby ovarian carcinoma was the initial diagnosis.

1. Introduction

In Malaysia, number of TB has been on the rise with new cases reported being well above 24 000[1]. Flooding of immigrants from endemic TB areas and increasing prevalence of HIV infection as TB being an opportunistic infection are responsible for the rising of this disease.

Overall, extrapulmonary TB occurs in significant proportion worldwide. In 2013, World Health Organization (WHO) had reported that almost 10% cases of TB were extrapulmonary TB[2]. Clinical presentation is non specific and the diagnosis is usually made following postmortem examination, operative specimens, and endometrial biopsy samples. Pelvic TB must be suspected in a patient with infertility or recurrent miscarriages with pelvic mass.

2. Case report

A 36-year-old Malay, with history of three consecutives miscarriages and one ectopic pregnancy, presented with chronic epigastric pain for one month duration. It was associated with constipation and constitutional symptoms. The patient had history of foul smelling vagina discharge and lower abdominal pain. She was referred to gynaecology clinic for suspected pelvic inflammatory disease.

The patient had no other known medical illness. She had no history of fever, chronic cough or nocturnal sweat. Her menses were regular, no dysmenorrhea or abdominal distension. Upon assessment, the patient was not cachexic with BMI of 23.1 kg/m^2. Her abdominal examination showed normal findings. Pelvic examination revealed normal sized uterus with no adnexal mass palpable. Her total white count was 11.2 × 10^9/L, not raised, erythrocyte sedimentation rate 98 mm/h and C-reactive protein 6.68 mg/dL and CA 125 625 IU/mL. She was screened for connective tissue diseases in view of recurrent miscarriages and the results were normal (ANA, RF, anticardiolipin antibodies). The cervical smear was negative for intraepithelial neoplasm and there were no bacteria growth from the high vagina swab. The retroviral and hepatitis screenings were non-reactive.

Due to gastrointestinal symptoms, colonoscopy was performed and the study showed thickening of the bowel. Oesophageal-gastroduodenoscopy was normal. The abdominopelvic ultrasonographic evaluation revealed normal size uterus with thin endometrial lining and normal sized ovaries. There were multiple anechoic cysts seen within the ovaries corresponded to functional cyst. The liver was enlarged with presence of hemangioma measuring 1.2 cm × 0.9 cm × 1.1 cm. Further evaluation with CT and MRI of the liver and the results were inconclusive of typical hepatocellular carcinoma. Lytic lesions were seen in vertebral bodies L4 and L5. There was also multiple enlargement of the mesenteric and pelvic lymph nodes. Finally, she had a PET CT of the whole body and the study showed enlarged uterus with hypermetabolic heterogenous endometrial enhancement, suggestive of primary uterine malignancy with suspicious adnexal metastasis disease. Endometrial pipelle biopsy demonstrated chronic granulomatous inflammation of the endometrium and TB cannot be excluded.

Based on this finding, we decided for exploratory laparotomy with presumption of ovarian malignancy. At laparotomy, there were multiple miliary deposits over the surface of the uterus, peritoneum, ovaries, fallopian tubes and bowels. The omentum was thickened with minimal ascitic fluid. The sigmoid colon was adhered to the left adnexal complex with the left hydrosalphinx engulfing the left ovary. Both ovaries were normal and uterus was at 6 weeks size. There was cheesy-like material noted on the uterine wall. We proceeded with

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left salpingo-oophorectomy. Histopathology findings reported as numerous granuloma formation composed of epithelioid histocytes surrounded by lymphocytes with central caseation necrosis at the left adnexal mass, uterine wall and from the endometrial curettage. Langhans-type multinucleated giant cells are also present. These findings were consistent with TB. PCR of the ascitic fluid was positive for *Mycobacterium tuberculosis*.

Two weeks later, she presented with surgical site infection and there was fecal material found on the laparotomy wound. She was then proceeded to exploratory laparotomy and there was an enterocutaneous fistula. A diversion colostomy was done and anti-TB was commenced on third day postoperatively.

3. Discussion

TB is a known commonly acquired disease for decades. It was discovered thousand years before century in spines of mummies. It earned sobriquet "Captain Among these Men of Death" in 18th century due to numbers of death caused by it. According to WHO, there were 10.5 million cases of TB reported in 2015 worldwide[3]. Locally, the incidence was 81.4 per 100000 population in year 2010 and this number is climbing up throughout the years due to streaming of immigrant and accelerating of HIV cases[4]. While pulmonary TB is the most common type, extrapulmonary TB still posed a threat.

Extrapulmonary TB is always due to lymphohematogenous dissemination during primary TB infection. It is caused by reactivation of *Mycobacterium tuberculosis* from the primary infection site. About 11% cases were asymptomatic and as in this case, the diagnosis obtained postoperatively based on histopathological and culture findings. The incidence of pelvic TB was reported to be 0.3%–3%[5]. A patient with pelvic TB may present with lower abdominal and pelvic pain, menstrual irregularity, infertility and ascites. In postmenopausal women, pelvic TB should be suspected in a patient with persistent leucorrhea, postmenopausal bleeding and pyometra[6].

In this case, the patient had presented with chronic abdominal pain and bowel symptoms as well as symptoms suggestive of pelvic inflammatory disease. She had background history of ectopic pregnancy, unfortunately, no biopsy taken for diagnosis of TB intraoperatively. Pelvic TB can cause blockage of fallopian tubes that lead to ectopic pregnancy. It can also cause menstrual irregularities due to endometrial involvement[7].

It was difficult to diagnose pelvic TB without tissue biopsy via invasive procedure. The endometrial sampling still could be inconclusive of the diagnosis of TB. Thus, we had proceeded with laparotomy in view of presence of elevated CA 125 and suspicious of malignancy in the ovary and uterus. In the pelvic ultrasound, pelvic TB characterized by presence of adnexal mass with solid component and loculated ascites, presence of small calcifications, thickened omentum, thickened peritoneum and endometrium. However, in this case, the ultrasound findings were normal. The whole body PET CT study is an adjunct procedure in diagnosing and staging of malignancy. However, there is limitation of the study in diagnosing small ovarian tumour due to glucose uptake in normal structures within the target area[8]. In this case, there was increased uptake in the uterus and ovaries, and retrospectively, PET CT was unable to differentiate between acute inflammatory process and viable tumour tissue. Thus, histopathological findings following biopsy from the laparotomy had concluded this case.

According to Huang *et al*., 60% of pelvic TB can present as an ovarian tumour and increase CA 125[9]. Furthermore, the patient had no typical symptoms of TB and no risk factors identified that contribute to pelvic TB. Hence, laparotomy is justified in this case as the diagnosis of ovarian malignancy is suspected. Intraoperative frozen section should always be considered to avoid unnecessary intervention.

Pelvic TB had been reported to cause infertility, miscarriages and ectopic pregnancy[10]. According to a study in India, conception rate following pelvic TB is poor, with rate of 22.9% and when conception occurs, it results in pregnancy loss or ectopic pregnancy. TB infection cause irreversible damage to the endometrium by altering endometrial receptivity and cause implantation failure. Poor fertility rate is due to damage of the ciliated tubal that prevents normal conception and implantation[11]. Besides, extensive pelvic adhesion and poor ovarian reserve are reasons for poor fertility prognosis among women with pelvic TB. In a recent literature, spontaneous conception reached 90% within first year of early initiation of anti-TB treatment[12].

Pelvic TB is treated medically. In general, 95% of patients are successfully cured with medical therapy. Currently, recommended anti-TB therapy are; initial phase; daily ethambutol, rifampicin, isoniazid and pyrazinamide for 2 months during followed by continuation phase; daily isoniazid and rifampicin for 4 months. Relapse was seen in 0%–3% of cases. Compliance and adherence was ensured with directly observing patient taking the medication (DOT).

In conclusion, pelvic TB may be asymptomatic or may have atypical presentation. Diagnosis of pelvic TB should always be suspected in woman in reproductive age with infertility, ovarian mass and raised CA 125. Medical therapy and conservative surgery is the mainstay of treatment. Treatment in early phase is important to reduce risk of complication mainly infertility.

Conflict of interest statement

We declare that we have no conflict of interest.

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