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AN UNUSUAL PRESENTATION OF A HUGE BILATERAL TUBO-OVARIAN ABSCESS: A CASE REPORT

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ABSTRACT

Background: **Tubo-ovarian abscess (TOA) is a documented and severe complication of untreated pelvic inflammatory disease. It is a life threatening infection that involves the ovaries, the fallopian tubes, and or any other adjacent tissue with a significant risk of infertility and pelvic adhesions. It is most commonly unilateral.**

Case summary: **This report presents a rare and unusual presentation of a huge bilateral tubo-ovarian abscess in a young woman, who presented with recurrent abdominal pain with no clear signs of infection. Clinical and laboratory findings were suggestive of a complex ovarian mass with elevated CA-125. She had exploratory laparotomy with bilateral ovarian salpingectomy and bilateral ovarian cystectomy based on intraoperative findings.**

Conclusion: **The management of this case underscores the need for having a high index of suspicion for unusual presentations of pelvic masses.**

Keywords: Bilateral Tubo-ovarian abscess, Ovarian cyst, Pelvic inflammatory disease, Tubo-ovarian mass

INTRODUCTION

Tubo-ovarian abscess (TOA) is an ascending polymicrobial infection of the female upper genital tract.[1] It is a life threatening infection that involves the ovaries, the fallopian tubes, and or any other adjacent anatomical structure with a significant risk of infertility and pelvic adhesions later in life.[1,2] Tubo-ovarian abscess is a recognized sequelae of untreated pelvic inflammatory disease (PID).[2,3] It commonly presents unilaterally[4] and has a predilection for mostly women of reproductive age, with up to 60% being nulliparous.[5] It typically presents with abscess-filled masses involving the ovaries and fallopian tubes, usually as a result of ascending urogenital tract infections. While classically linked with sexually transmitted infections, pathogens from other sources are also involved with its occurrence.[6] Non-sexually transmitted pathogens could result from intrauterine devices, uterine procedures, diabetes mellitus and immunocompromised state.[7] TOAs can also be caused by abdominal conditions like appendicitis, diverticulitis or pyelonephritis[7]. This condition typically presents with lower abdominal pain, purulent vaginal discharge, abnormal uterine bleeding, and fever. Cervical, uterine, and adnexal motion tenderness can be elicited on bimanual pelvic examination.[4] The demonstration of the clinical findings in addition to the presence of elevated inflammatory markers such as C-reactive protein and Erythrocyte sedimentation rate (ESR) and radiological features demonstrating a mass, is most often suggestive of a TOA.[5] This report presents a rare and an unusual presentation of a TOA in a young woman with features suggestive of a complex ovarian mass and elevated Cancer- antigen 125 (CA- 125), and suspicion of ovarian malignancy, but had an intraoperative finding of a huge bilateral TOA.

Case presentation

A 29-year-old Para 2^{+1} (2Alive) woman was referred from a private hospital with a history of lower abdominal pain of 9 days. The pain was initially insidious in onset and increased in intensity; localized to both iliac fossa regions and later became secondarily

generalized. Her pain score was 10/10. There was no associated fever, or vaginal discharge at presentation. She had a previous history of recurrent lower abdominal pain and vaginal discharge for which she had taken multiple antibiotics. No history of multiple sexual partners or recurrent pelvic instrumentations.

On physical examination, she was not pale, not febrile and she was well hydrated. Her blood pressure was 117/70 mmHg, pulse rate was 102 pulses per minute, and respiratory rate was 24 per minute. On abdominal examination, tenderness was elicited in both iliac fossa, and a 16/52 size abdominopelvic mass was palpated, centrally located, with smooth surface; not mobile with dull percussion note. It was tender and firm to touch. Vaginal examination elicited right and left adnexae fullness with tenderness; the mass was difficult to delineate from the uterus and the cervical motion tenderness was positive. Digital rectal examination was not done A working diagnosis of a bilateral Complex Ovarian mass, with suspected malignancy was made. Pelvic ultrasonography revealed a normal sized bulky uterus with left tubo-ovarian cyst measuring 104x53x62cm; volume 181cm^3 and right ovary measuring 80x55x80cm; volume 186cm^3; with an impression of right and left complex tubo-ovarian masses. The laboratory results showed that her hemoglobin level was 11g/dl, full blood count showed leukocytosis (13,000uL) with predominant neutrophilia (94%); serum alpha fetoprotein (AFP) and carcinoemryonic antigen (CEA) were normal; serum CA 125 was elevated (317u/ml); random blood glucose (RBG), serum electrolytes urinalysis and viral screening were normal. She had two units of blood grouped and cross matched.

The woman was counselled on her condition and the various options of intraoperative management with possible associated complications. Thereafter, a written informed consent was taken, and the patient was scheduled for an exploratory laparotomy. The intraoperative findings were bilateral dilated fallopian tubes, filled with pus, with widest diameter of 10cm; both fimbrial ends twisted and buried in adhesions; bilateral ovarian masses containing abscess, measuring 5.5cm x 4.5cm. (Figure 1). The posterior wall of the uterus was bound in adhesions to the bowel and it occluded the pouch of Douglas. She had adhesiolysis, drainage of abscess, bilateral salpingectomy, and bilateral ovarian cystectomy performed. She also had excision of diseased section of ovarian tissue bilaterally.

Follow up

Following surgery, her vital signs were closely monitored. She recovered fully from anaesthesia. After completing 72 hours of intravenous antibiotics, she continued oral antibiotics and she was discharged on the fourth post-operative day. She was seen at the gynaecology clinic two weeks post-operatively. She was in stable clinical condition. The aspirate for microscopy, culture and sensitivity yielded no growth. The histopathology report revealed right tube measuring 10cm x 3cm, left tube measuring 13cmx3cm, both with features of acute suppurative salpingitis, left ovary with corpus hemorrhagicum and right ovary with acute on chronic oophoritis. (Figure 2)

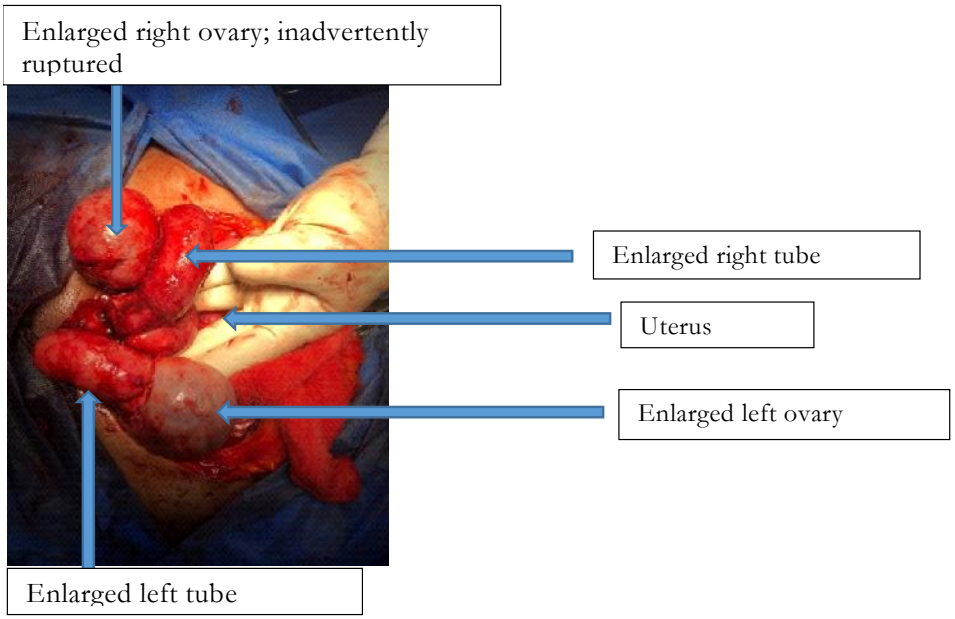

Figure 1: Uterus with bilateral tubo-ovarian abscess

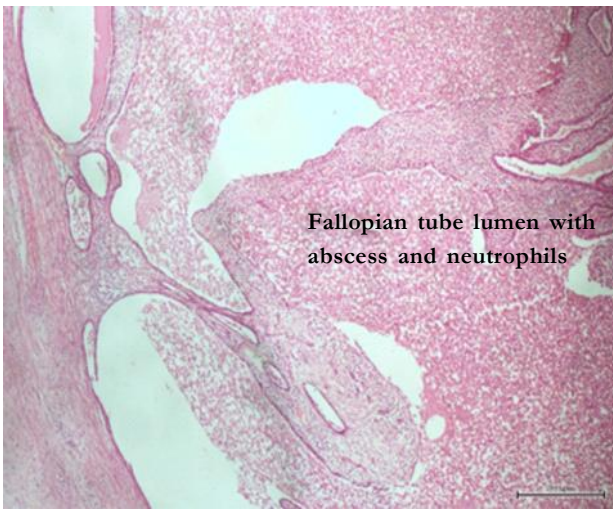

Figure 2: Tissue micrograph of fallopian tube

Discussion

Tubo-ovarian abscess can present in both mild and severe forms, thus the diagnosis of this clinical condition may require a high index of clinical suspicion supported with radiological investigations. This is especially in cases where the presentation is not the usual classical presentation such as the index patient, with no fever or abnormal vaginal discharge at initial evaluation and elevated serum CA 125 mimicking an ovarian malignancy. A serum CA-125 level <35 U/mL is mostly considered normal. Serum CA 125 may be elevated in various diseases like menstruation, pregnancy, PID, endometriosis, inflammatory diseases like peritonitis, pancreatitis; and non- gynecological conditions including various liver and pulmonary diseases.[8] However, a pelvic mass with a raised serum CA125 level is in many cases, suggestive of an ovarian malignancy.

The risk factors for TOA include intrauterine contraceptive devices, non-use of barrier contraceptives, prior history of PID, early age at coitarche, multiple sexual partners and an immunocompromised state.[5] In this case, she had a history of recurrent vaginal discharge which started a year prior to presentation, and was managed with antibiotics at different times. No other risk factor could be elicited.

Pelvic ultrasonography is the first line of imaging technique for evaluation of TOA.[1,6,7] It typically shows the presence of complex multilocular cysts with thickened irregular walls, mixed echogenicity and disruption of the normal anatomy of the pelvic structures.[9] The use of Computed tomography (CT) scan has limited value in the initial evaluation of an adnexal mass due to its poor soft tissue discrimination and risk of exposure to ionizing radiation[7,10], although with contrast enhancement, the yield is better. Magnetic Resonance Imaging (MRI) has better tissue resolution than CT scan especially in pelvic pathologies with the attendant benefit of being done without the patient being exposed to ionizing radiation. It correctly identifies organ of origin in more than 90% of cases compared to 66% of cases with the aid of Ultrasound[11]. It is therefore recommended that MRI may be done for women with a pelvic abnormality identified on ultrasound or in whom there is a strong clinical suspicion of disease because of its better soft tissue resolution and multi-planar capability.[7,8] A pelvic ultrasound was the only radiological investigations done in this patient and the characteristic features of TOA were not as described in the index case. Additional imaging studies could not be done due to financial constraints.

Treatment options may be medical or surgical. Medical management of TOA involves the administration of broad spectrum antibiotics.[3,7] The preferred intravenous antibiotic regimens of choice being a cephalosporin with doxycycline, as recommended by the Centers for Disease Control and prevention (CDC).[13] Once 24 hours of apyrexia is achieved, an oral course of doxycycline in combination with Metronidazole for broader anaerobic coverage for two weeks should be administered.[14] About 7 in 10 cases of TOA are managed medically.[9]

Surgical management is indicated in women with ruptured TOA, failed medical treatment especially in those with bilateral abscesses ,large abscesses (TOA >=6cm), elevated levels of inflammatory markers (white blood cell count >16,000/microliter, C- reactive protein and erythrocyte sedimentation rate level); and older women.[2,3,7,15] Surgical techniques include drainage, unilateral or bilateral oophorectomy and or salpingectomy; and in rare cases, hysterectomy.[3] Surgical management of TOA can be performed with the aid of laparoscopy, ultrasound guided drainage, computed tomography-guided drainage or by laparotomy.[3,15] Bilateral salpingectomy and ovarian cystectomy were performed in this case, as she was young and still desirous of conception. She was counseled about assisted conception with regards her future fertility.

CONCLUSION

The presentation of TOA may not be classical as it was in this case. Considering a low-income country like ours, where advanced radiological investigations such as MRI or CT scan are not readily affordable and accessible, the diagnosis of TOA may occasionally require a high index of suspicion, following a detailed evaluation. This underscores the need for proper evaluation of women presenting with a pelvic mass.

The management approach should be individualized in order to avoid its long-term complications.

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