Pelvic Mass Associated with Raised CA 125 for Benign Condition: A Case Report

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Abstract

Background: Elevated levels of CA 125 with clinical evidence of significant weight loss and associated pelvic mass is highly suggestive of ovarian malignancy, this creates a diagnostic dilemma with the knowledge that several benign pelvic conditions may present with same findings.

Case presentation: We present a case of 40 year old, Para 4 Nigerian woman who presented at the NNPC medical center in Lagos 4 weeks after she had a caesarean delivery in a private hospital on 3rd July, 2011 with sudden lower abdominal pain and significant weight loss and on imaging was found to have 60mm × 87mm cm complex cystic mass in right adnexa with a raised CA 125 of 657, which was initially thought to be highly suspicious of cancer but was subsequently found to be due to a right tubo-ovarian abscess at surgery and confirmed by histology.

Conclusion: This case underlines the need to rely more on clinical history in deciding diagnosis particularly in a resource limited setting like Nigeria. Initial clinical suspicion was for a pelvic abscess but the findings of severe weight loss and markedly elevated CA-125 level tilted the diagnosis in favour of a malignancy. There is therefore the need to seek reviews of CT scan reports and strongly consider non-malignant conditions in similar presentations.

Introduction

The clinical history and findings on examination coupled with CT scan findings of a suspicious ovarian mass along with an 8-fold increase in CA-125 raised the suspicion of ovarian malignancy in this 40 years old multiparous woman.

Case Report

A 40 year old Para 4, Nigerian woman was admitted with a sudden onset of lower abdominal pain one month after she had a caesarean delivery at a private hospital. This pain was sharp and stabbing in nature with no radiation. There was no associated vomiting or fever. She denied any urinary urgency, frequency or dysuria and her bowels were normal. On examination there was minimal guarding and no rebound tenderness but with a positive shifting dullness test. There was visible lower abdominal distension with diminished bowel sounds. Transvaginal pelvic ultrasound demonstrated a complex left ovarian mass with mixed echogenicity and internal septation. Her medical report from where she had a caesarean section reported no significant intraoperative findings with normal adnexa bilaterally. Interestingly her CA 125 was markedly elevated at 1450; CEA, alpha- FP, HCG, white cell count (WCC) and CRP were all within normal limits.

Past medical history was none contributory and no previous pelvic infections. Pelvic examination revealed a normal size uterus with a left adnexal mass which appeared fixed to the pelvic side wall. A subsequent CT scan done a day after admission suggested a left sided ovarian mass of 6cm X 7.8cm and an enlarged 7mm mm pre-aortic and significant abdominal ascites. These features were thought to be highly suspicious of malignancy. A further CA 125 level was measured pre-operatively and had risen to 1860. A provisional diagnosis of an ovarian malignancy was made. She underwent a midline laparotomy that revealed left tubo-ovarian abscess. The right ovary was normal, although there was evidence of a left pyosalpinx, which was drained to conserve left tube. A left salpingo-opherectomy, appendicectomy and omental biopsy was performed and an intraoperative swab from the mass was sent for culture and sensitivity. Postoperatively she was placed on metronidazole infusion and 3rd generation cephalosporin, her repeat CA 125 at 5th day after surgery had dropped to 800 and her recovery was uneventful and she was discharged on the 8th post surgery. Follow up CA 125 at the gynaecology clinic six weeks after discharge was 23.

Histology revealed the fallopian tube showed a chronic salpingitis and the appendix was normal.

Discussion

Cancer of the ovary occurs in 25,200 women yearly in the USA, it is usually asymptomatic until it reaches an advanced stage, survival is poor with 14,500 deaths
occurring in affected women annually. Practical screening modalities are still very far-fetched (1). The majority of cases present when the condition has advanced thereby contributing to the poor outcome of this disease (2). The incidence of ovarian cancer increases with age and usual presentation is in women older than 60 years, it is low in young women and epithelial ovarian cancers are not known to occur before menarche, and most of them (though rare) are germ cell tumour, juvenile granulosa cell tumour and serous borderline tumours (3).

Several factors including Age, genetic predisposition, gynaecological and reproductive factors and environmental factors are the common risk factors for acquiring ovarian cancer. Pelvic examination, ultrasonography and measurement of blood serum levels of tumour markers, especially CA125 constitute the first-line screening modalities for ovarian cancer, whereas second-line testing involves more accurate imaging techniques such as colour Doppler ultrasound of the lesion or /and CT-scan (4).

In the search for early detection of ovarian cancer CA 125 remains the most reliable serum marker for ovarian carcinoma. However its role in the screening of ovarian malignancy remains controversial for lack of specificity and a high predictive value, serum CA 125 assay is very useful for both the differential diagnosis of ovarian masses, particularly in women over 60 years of age, and the monitoring of the response to chemotherapy and follow-up of patients with histologically proven ovarian carcinoma (5).

The CA 125 molecule is a glycoprotein with molecular weight of 200-kDa glycoprotein and was initially identified on the surface of the ovarian carcinoma cell line OVCA433 [6]. CA 125 is found on the surface cells of mesothelial origin, including pleural, pericardial, peritoneal and endometrial cells, as well as in normal genital tract and amniotic membrane. Curiously, the molecule is not present on the surface of normal ovarian cells, but is present in 80% of malignant ovarian tissue of non-mucinous origin [3]. The accepted value of CA 125 is < 35 kIU/L. From the fore going therefore CA 125 levels can be raised in various benign and inflammatory conditions such as menstruation, pregnancy, endometriosis, pelvic inflammatory disease and non-gynaecological conditions including various liver and pulmonary diseases. The value of CA 125 in differentiating a benign from a malignant condition remains a diagnostic challenge to clinicians. The combination of an elevated CA 125 level with clinical features such as a pelvic mass and significant weight loss and presence of ascites raises the suspicion of an ovarian malignancy.

Several well conducted studies demonstrate that using CA 125 in isolation has a limited value in differentiating benign from malignant pelvic masses. The patient characteristics and radiological information provides crucial additional information with which to reach a working diagnosis. Pelvic ultrasound in conjunction with CA 125 represents the most frequently utilised investigations for patients with adnexal masses. CT scan has limited value in the initial assessment of adnexal masses due to poor soft tissue discrimination and with the disadvantage of radiation exposure to the patient [7], but can help to assess the extent of disease in the upper abdomen prior to primary cytoreduction and following chemotherapy to detect resistant disease or recurrence [8]. The CT scan in the current case was misleading, with complex left ovarian mass and internal septation, and pre-aortic lymph node assumed to be malignant most likely representing inflammation from the tubo-ovarian abscess. As the CA 125 molecule is identified in normal peritoneal and fallopian tubes, it is not surprising that inflammation of these tissues can result in an increased concentration of serum CA 125.

In this patient being reported the finding of significant drop of the CA125 postoperatively and after commencement of parenteral antibiotics confirms that the elevation in CA125 was due to the benign condition of tubo-ovarian abscess (9).

Conclusion

The presence of a pelvic mass with a raised CA 125 of 1450 units/ml, lymphadenopathy and other associated suspicious features on CT scan suggested an ovarian malignancy. A subsequent fall of CA 125 to 23 units/ml pointed to an inflammatory condition as was found intraoperatively. Raised CA 125 levels can be misleading, as illustrated in this case, a differential diagnosis of inflammatory pelvic condition should always be considered in young patients. While CT and CA 125 aids in diagnosis they should not completely supplant the need to rely on clinical history and examination findings.

References

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