Synchronous Occurrence of Brucellosis and Ovarian Cancer- A Case Report

1Dr Maha Mohamed Emara, *2Dr Vinay Vyas, 2Dr Shafika al Awadi, 2Dr Nemec Jaroslav, 2Dr Ahmed el Khodry, 3Dr Tarek Essam, 4Dr Yasser Mohamed Abdel Rouf, 5Dr Henny Amanguno, 6Dr Prashant Purohit

1Department of Microbiology, Sabah Hospital, Kuwait  
2Department of Medical Oncology, Kuwait Cancer Control Centre, Kuwait  
3Department of Surgical Oncology, Kuwait Cancer Control Centre, Kuwait  
4Department of Medicine, Sabah Hospital, Kuwait  
5Department of Pathology, Kuwait Cancer Control Centre, Kuwait  
6Department of Microbiology, Sabah Hospital, Kuwait

*Corresponding author: Dr Vinay Vyas, Senior Registrar Department of Medical Oncology, Kuwait Cancer Control Centre, Kuwait. E-mail: vinay25vyas@hotmail.com

Key words- brucellosis, ovarian cancer, CA-125

ABSTRACT

Objective- to report a case of synchronous occurrence of brucellosis and ovarian cancer.

Case presentation and intervention- A 48 year old lady presented with history of fever and abdominal distension. The diagnosis of brucellosis was established by positive blood culture and ovarian cystic fluid culture. Tuboovarian mass and peritoneal nodules seen upon radiological investigations pointed towards the diagnosis of ovarian cancer. Preoperative ascitic fluid cytology didn’t confirm malignancy. A very high value of CA-125 and rising trend was noted. She underwent exploratory laparotomy and histopathology proves it to be a malignant ovarian mass with peritoneal spread and opposite ovarian metastasis.

Conclusion- This case shows that although initial picture was suggestive of brucellosis, but exploratory laparotomy and subsequent pathology report showed the presence of ovarian malignancy too. This case is presented for its rarity due to synchronous occurrence of brucellosis and ovarian cancer.
INTRODUCTION

The diagnosis of brucellosis is based on history of exposure to raw milk and milk products and or exposure to farm animals, and it is confirmed by blood culture and ELISA test.1, 2 The diagnosis of ovarian cancer is established by histopathology from the ovarian surgical specimen.3 In our case she didn’t remember the history of exposure but brucellosis was confirmed by blood cultures and ELISA tests. Further, the concurrent occurrence of ovarian cancer was confirmed by pathology report.

CASE REPORT

A 48 year old lady, housemaid by profession. Non alcoholic, non smoker, having diabetes mellitus for two years controlled with oral hypoglycemic. There was no history of drinking raw milk no history exposure to pets and animals in farm. She presented with complaints of fever, pain and abdominal distension of one week duration.

On examination there were no palpable peripheral lymph nodes. A mobile globular mass was present in the lower umbilical region its pelvic margin couldn’t be felt, and there was ascites.

Upon investigation her CBC, renal and liver function tests were normal. An abdominopelvic CT scan showed a large size right ovarian mass, multiloculated, 2 of the large cysts measure 12.8x10.7cm and 5.5x5cm with heterogeneous solid components within the mass. Moderate ascites and soft tissue seedlings seen at the pelvis over left adnexa region, and other in pouch of Douglas, omentum. There were seedlings at prehepatic area, Morrison’s pouch, subphrenic area. The bilateral pleural reaction was present. Multiple lymph nodes were seen at paraaortic and bilateral iliac group. Her CA125 came as 5650IU/l.

*Brucella* species was isolated from three blood cultures collected on three consecutive days as well as from the fluid aspirated from the cystic ovarian mass. *Brucella* culture was processed in automated BACTEC 9140 system (Becton - Dickinson) which flagged this as positive after 134 hours of incubation. *Brucella* agglutination test was positive with 1/160 and *brucella* ELISA test revealed IgM positive, IgA positive and IgG negative suggesting acute infection with *brucella* species.

The repeat blood culture collected 1 week after starting antibrucella treatment was sterile after 4 weeks incubation.

Before the availability of brucella culture report she was receiving empirical antibiotic regimen to which she didn’t respond.

After the diagnosis of brucellosis, she was started on antibrucella triple therapy with injection streptomycin 1gm im OD, tablet rifampicin 600 mg o.d and Doxycycline 100 mg b.d. She became afebrile 2 days after starting this regimen.
Streptomycin was stopped after 2 weeks and she continued on other two drugs. Exploratory laparotomy revealed right and left ovarian masses, peritoneal nodules at uterovesical and rectovesical pouches, omental and splenic nodules. Total abdominal hysterectomy and bilateral salpingoophorectomy with subdiaphragmatic omentectomy multiple lymph nodes sampling was done. This was suboptimal debulking. Ascites cytology was sent which came negative for malignant cells.

Histopathology came as high grade serous papillary cystadenocarcinoma of left ovary with metastases to right ovary, omentum, and lymph nodes (5/32 positive), pT3N1M0, FIGO IIIc. [Fig1]

She had a good post-operative recovery. Her CA-125 which increased to 9481 IU/l before surgery came down to 1063 IU/l post-operatively, chemotherapy with paclitaxel and carboplatin was started. The patient is planned to receive total of 6 courses.

DISCUSSION

The diagnosis of ovarian cancer requires a pathology report after primary or secondary surgery, although the clinicoradiological findings and high CA-125 may indicate with some certainty the diagnosis of ovarian cancer.³

In our patient the presence of fever, positive blood and ovarian cyst fluid cultures for *brucella species* and presence of ovarian mass and peritoneal nodule gave a picture which could very well be compatible with brucellosis alone. The high values of CA-125 can be seen with the extensive involvement of peritoneum which was present in our case, but progressively rising values inspite of control of infection were pointing towards the diagnosis of ovarian cancer.

Surgery was done with an aim at reaching a proper diagnosis and removing as much disease as possible including nodules possibly harboring brucellosis infection.⁴,⁵

Patient underwent maximal debulking surgery. Only after the surgery it became clear that the patient was harboring an advanced ovarian tumor along with brucellosis.

Patient is well now and is receiving treatment with doxycycline and rifampicin to be stopped after total eight weeks. She has been started on chemotherapy and will continue to receive it for total six courses.

CONCLUSION

The case is presented because of its unique features of synchronous ovarian cancer and *brucellosis* and the diagnostic dilemmas associated with this presentation.

REFERENCES