Learning Point for Clinicians

Tuberculosis should be kept as a possibility in patients with multisystem disease, especially in developing countries like India. A simple test like CT guided FNAC can help detect infection with M. tuberculosis and hence a major surgery can be avoided.

CA-125 is an epithelial marker derived from coelomic epithelium. It is elevated in 90% of advanced ovarian cancers and has a sensitivity of 57–80% and specificity of 100%. Therefore, CA-125 is an important investigation in evaluating a pelvic mass. However, any process that disrupts the epithelial lining of the peritoneum has the potential to raise its level. Therefore, it can be elevated in many non-neoplastic conditions such as hepatitis, pancreatitis, menstruation etc. We illustrate a patient who presented with elevated CA-125 levels but was ultimately diagnosed as having disseminated tuberculosis.

Case report

A 25-year-old unmarried girl came with 6 months history of lower abdominal pain, dysmenorrhea and vomiting. Her ultrasound of the abdomen showed a tubo-ovarian mass. Her CA-125 level was 1295 U/ml (normal value < 35 U/ml). HIV, monteux and quantiferon tuberculosis (TB) Gold test were negative. Chest X-ray showed left pleural effusion and analysis of the pleural fluid showed a protein of 5.4 g% and 185 cells with lymphocytic predominance. Pleural fluid analysis for malignant cells was negative. In view of the clinical presentation and raised CA-125 levels, a possibility of ovarian malignancy with pulmonary extension was considered and an exploratory laparotomy was planned. However, 2 days prior to surgery she developed headache followed by left focal seizures with secondary generalization.

On examination she had left upper motor facial palsy and left hemiparesis. CT scan of abdomen showed an adnexal mass with hypodense lesions in liver and spleen with mesenteric lymphadenopathy (Figure 1a). Contrast-enhanced MRI brain showed evidence of ill-defined, irregular, peripherally enhancing lesion of mixed intensity in right frontoparietal lobe associated with perifocal edema and an additional lesion in the right parietal lobe (Figure 1b).

CT-guided Fine needle aspiration cytology from the adnexal mass was performed, which showed acid-fast bacillus (AFB) on Ziehl Neelsen stain (ZN stain). Gram stains of the aspirate and bacterial cultures were negative. Hence, with a diagnosis of disseminated TB, she was started on anti-tubercular treatment, steroids and anticonvulsants. On follow-up, she has made a remarkable recovery with only...
mild left upper limb residual monoparesis. There is a decrease in the tubo-ovarian mass on repeat abdominal sonography, and the CA-125 level decreased to 59 U/ml.

Discussion

The patient had a tubo-ovarian mass with strikingly high levels of CA-125 along with dissemination to multiple organs and a negative screening for TB. A strong consideration of ovarian malignancy was justified. Presence of lesions in brain, liver and spleen with pleural effusion further indicated metastases. However, demonstration of AFB on FNAC confirmed the diagnosis of disseminated TB.

Disseminated TB is defined as having two or more non-contiguous affected sites resulting from lymphohematogenous spread of *Mycobacterium tuberculosis*. Genitourinary TB is a common manifestation of extrapulmonary TB, seen in about 30% cases and is notorious for evading diagnosis.2

CA-125 is a cell-surface glycoprotein present in normal fallopian tubes, endometrium and in ovarian surface epithelium. Its expression in ovarian carcinoma was first detected by Bast et al.3 It is often utilized for the treatment and follow-up of patients with ovarian malignancy. Serum CA-125 levels may be elevated in a variety of conditions such as infections, menstruation, ovarian hyper stimulation and non-gynecologic conditions like active hepatitis, acute pancreatitis etc. It is postulated that CA-125 titres higher than 1000 U/ml correlate with malignancy.4

The present case highlights the importance of tissue diagnosis over the ancillary indirect tests. A relatively simple CT-guided FNAC saved the patient from major surgery and also from psychological trauma of a sinister diagnosis.

Conflict of interest: None declared.

References