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Case Report:

Ovarian Fibroma with Meigs Syndrome associated with Elevated CA125 - A Rare Case

Prasad K Shetty, UD Bafna, K Balaiah, Gnana Prakash S,
Departments of Pathology, Gynaconcology and Radiology,
Bhagwan Mahaveer Jain Hospital, Bangalore, India

Address For Correspondence:
Dr. Prasad K Shetty,
Surgical Pathologist,
Bhagwan Mahaveer Jain Hospital,
Millers Road, Vasanth Nagar,
Bangalore - 560052, INDIA.
E-mail: dr.pkshetty@gmail.com

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Abstract:
Postmenopausal women with solid adnexal masses, ascites and pleural effusion with elevated CA 125 are highly suggestive for malignant ovarian tumor. However in literature 28 cases Meigs syndrome (Benign ovarian tumor, ascites and right pleural effusion) with raised CA 125 have been reported. We report a case of Meigs syndrome caused by right ovarian fibroma with elevated serum CA125 level in a postmenopausal woman

Key Words: Ascites, Meigs syndrome, Carcinoembryogenic Antigen (CA) 125.

Introduction:
An elevated serum Carcinoembryogenic antigen (CA) 125 level in association with a ovarian mass, pleural effusion and massive ascites usually signifies a ovarian malignancy in a post menopausal woman. Benign ovarian tumor in association with high CA125 is quite rare and very few cases have been reported in literature. We present such a case which mimicked ovarian malignancy.

Case Report:
A 72 year-old woman came with history of breathing difficulty, abdominal distention since 1 year she also gives history of breathing difficulty and oliguria since 1 month. She is a known case of Diabetes and Hypertension since 11 Yrs. On abdominal examination moderate ascites was noted with a palpable and freely mobile mass in the left side abdomen crossing mid line and extending to right iliac fossa, measuring 15x15 cms with irregular surface. Chest X- ray revealed moderate right pleural effusion.

Abdominopelvic plain Computer Tomography (CT) scan reveled a large isodense abdominopelvic mass measuring 193x120mm probably arising from the left adnexa.

Hepatitis B surface antigen was Positive 213.54 (<2 Normal) and serum CA 125 level was high 205.3U/ml (<35U/ml normal). Pleural and ascitic tap fluid cytology reveled low cellular fluid comprising of lymphocytes and mesothelial cells. No evidence of malignancy.

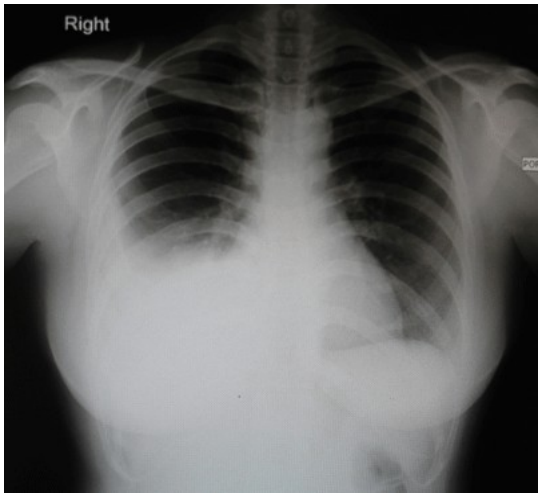

Figure 1: Chest X- ray showing Right pleural effusion

Figure 2: Abdominopelvic plain CT showing huge isodense Left adnexal mass; moderate ascites noted in peritoneal cavity

A preoperative diagnosis of left ovarian carcinoma was made and an exploratory laparotomy with total abdominal hysterectomy and bilateral salpingo-oophorectomy, pelvic lymphnodes dissection and omentectomy was performed.

Grossly uterus with cervix measured 9x6 cms and was unremarkable, right ovary measured 2.5x1.3 cms, cut surface was unremarkable, Left ovarian tumor measured 20x15 cms with a smooth outer surface and fallopian tube running over it, tumor was gritty to cut and was solid, lobulated, firm and uniformly gray white.

Figure 3: Gross photography of uterus with left ovarian solid gray white mass.

Figure 4: Cut section photograph of left ovary showing-solidly uniform gray white tumor.

Pelvic lymphnodes were 21 in number largest measuring 1.4cms across, Omentum measured 18x11 cms. Cut surface was Unremarkable.

On Microscopy left ovary showed closely packed tumor cells arranged in storiform pattern, cells show small spindle shaped nuclei. No evidence of atypia/ mitosis.

We made a diagnosis of Ovarian Fibroma. The postoperative period was uneventful and the patient was discharged on the seventh postoperative day.

Discussion:

In 1934, Salmon described the association of pleural effusion with benign pelvic tumors. In 1937 Meigs and Cass brought out the significance of pleural effusion and ascites in benign ovarian fibroma.[1] Meigs syndrome is defined as the triad of benign ovarian tumor with ascites and pleural effusion that resolves after resection of the tumor. Although Meigs syndrome mimics a malignant condition, it is a benign disease and has a very good prognosis. Ovarian fibroma is found in 2–5% of surgically removed ovarian tumors, and Meig's syndrome is observed in about 1%.[2]

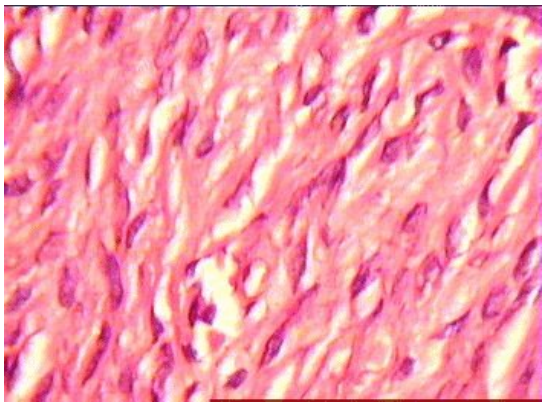

Figure 5: Microscopy 40x shows tumor cells arranged in storiform pattern with spindle shaped nuclei

Ascites is present in 10–15% of those with ovarian fibroma and pleural effusion in 1%, especially with large lesion. [3,4] Meigs suggested that irritation of the peritoneal surfaces by a hard, solid ovarian tumor could stimulate the production of ascites. [5, 6]

The etiology of pleural effusion is unclear. It is thought that the occurrence of pleural effusion is secondary to the passage of ascitic fluid to the pleural space through the diaphragm or diaphragmatic lymph vessels which are more common on the right side.[7] The connection between the pelvic tumor and ascites is confirmed by the rapid resolution of abdominal and pleural fluid after removal of the tumor. CA125 antigen is a glycoprotein expressed in the embryonic coelomic epithelium. The antigen can also appear in many adult tissues such as the epithelium of the fallopian tubes, endometrium, endocervix, and ovaries.[8] In addition, it is found in mesothelial cells of the pleura, pericardium and peritoneum. This tumor marker is found elevated in ovarian malignancies and in some benign conditions such as endometriosis, peritonitis or cirrhosis, particularly with ascites.[9] The coincidence of Meigs syndrome with elevation of serum CA125 levels has been described in the published literature in only 28 cases and in 15 cases the ovarian tumor was fibroma. CA125 suggested that serum elevation of CA125 antigen in patients with Meigs syndrome is caused by mesothelial expression of CA125 rather than by fibroma. The mechanism is unclear, but a mechanical irritation from a large tumor, or an increase in intraperitoneal pressure from a large volume of ascites might be primary factors in this process.[10]

In conclusion the association of massive abdominal ascites, pleural effusion, and a large pelvic mass with an elevated serum CA125 level implies a ovarian malignancy. However, a small percentage of patients with Meigs syndrome can present with raised serum CA 125 level.

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