



Review Article

MEIGS SYNDROME- A REVIEW ARTICLE

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ABSTRACT

Meigs syndrome is defined as the triad of benign ovarian tumor with ascites and pleural effusion that resolves after resection of the tumor. Ovarian fibromas constitute the majority of the benign tumors seen in Meigs syndrome. Meigs syndrome, however, is a diagnosis of exclusion, only after ovarian carcinoma is ruled out. Cause of this syndrome is a fibrous growth in a woman's ovary which causes abnormal levels of sex hormone production. The essential management is surgical removal of the tumour. Before operation, aspiration of pleural effusion and ascites may be required to improve pulmonary function. Although there is difficulty in discerning the diagnosis of Meigs' syndrome from that of an ovarian malignancy, it should be considered in the differential diagnosis in postmenopausal patients with an ovarian mass, hydrothorax, ascites, and elevated CA 125.

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INTRODUCTION

Meigs' syndrome is named after Joe Vincent Meigs, an American obstetrician and gynaecologist (1892-1963), who reported a case series in 1937 and subsequently described the syndrome. Meigs proposed limiting the diagnosis of Meigs' syndrome to benign and solid ovarian tumours with ascites and pleural effusion, and with the condition that removal of the tumour cures the patient without recurrence. To conform to the diagnosis of true Meigs' syndrome the ovarian tumour may be a fibroma, thecoma, cystadenoma, or granulosa cell tumour.

Definition: [2,5]

This is a syndrome with the trio of ascites (fluid in peritoneal cavity), pleural effusion (excess fluid in the pleura) and ovarian tumor that is benign. Its resolution is only when there is the resection of the tumor. For unknown reasons, the pleural effusion is characteristically right sided.

Epidemiology: [1,7]

Meigs' syndrome is rare. Fibromas account for around 3% of all ovarian tumours, and Meigs' syndrome for 1-2% of those. It tends to occur most often in postmenopausal women, with an average age of presentation of around 50 years.

Causes: [4,7]

Cause of this syndrome is a fibrous growth in a woman's ovary which causes abnormal levels of sex hormone production.

The three cardinal features of Meigs' syndrome are:

- ❖ A benign ovarian tumour (a fibroma, or fibroma-like tumour).
- ❖ Ascites.
- ❖ Pleural effusion.

The Differential Diagnosis: [3,5,6]

It includes

- ❖ Renal failure
- ❖ Liver failure – cirrhosis
- ❖ Congestive heart failure
- ❖ Metastatic tumors
- ❖ Tuberculosis
- ❖ Malnutrition
- ❖ Ovarian cancer
- ❖ Lung cancer, non-small cell

Symptoms: [3,6]

The symptoms and signs of Meigs syndrome consist of:

- ❖ Shortness of breath
- ❖ Fatigue
- ❖ Increased abdominal size
- ❖ Weight loss
- ❖ Amenorrhea for premenopausal women
- ❖ Bloating
- ❖ Dullness of percussion of lungs
- ❖ Tachycardia
- ❖ Present of ascites
- ❖ Present of pelvic mass
- ❖ Abdominal examination may feel the mass

**Investigations: [2,4,5]**

- ❖ Check urine for protein.
- ❖ Routine blood tests would include FBC, U&E, LFTs, including plasma proteins.
- ❖ Cancer antigen 125 (CA 125) is often elevated both in serum and in pleural and peritoneal fluid.
- ❖ However, CA 125 is not reliable and cases are described with very high CA 125 and with normal levels. It can also be normal in ovarian malignancy.
- ❖ CXR (AP and lateral) will show the degree of pleural effusion.
- ❖ Abdominal ultrasound will demonstrate the ascites and should outline the ovarian tumour too.
- ❖ Imaging also includes CT of the chest, abdomen and pelvis, and MRI of the pelvis.
- ❖ Paracentesis and aspiration of pleural fluid:
  
- ❖ These procedures also help to relieve symptoms. Fluid should be sent for cytology. This is very important in distinguishing malignant ascites from Meigs' syndrome.
- ❖ The fluid tends to have the features of exudates, although some studies describe it as transudates. In ovarian carcinoma the protein content is usually high.
- ❖ Pleural and ascitic fluid should also be examined for protein, glucose, amylase, cell count, organisms and AAFB if indicated.
- ❖ If congestive heart failure is suspected, ECG will be required. Echocardiogram is indicated only if the ECG is abnormal.

**Complication: [7]**

The major complication of Meigs' syndrome is infertility.

**Management: [2,5]**

The essential management is surgical removal of the tumour. Before operation, aspiration of pleural effusion and ascites may be required to improve pulmonary function.

The operation includes full laparotomy to exclude other causes of malignancy, including bowel:

- ❖ In women of reproductive age a unilateral salpingo-oophorectomy is usually performed.
- ❖ In girls who are before the menarche, wedge resection may be preferred if feasible.
- ❖ After the menopause an operation of total abdominal hysterectomy with bilateral salpingo-oophorectomy is usual.

**CONCLUSION: [1,4]**

Within weeks to months of operation the ascites and pleural effusion resolve and the CA 125 returns to normal. Postoperative resolution of the fluid is part of the definition of the disease. As it is a benign tumour the prognosis is excellent. If there is functioning ovarian tissue, fertility should be preserved.

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