MEIG'S SYNDROME — A CASE REPORT

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SYNOPSIS

A case of Meigs's Syndrome in a 58 year old Chinese woman is presented. The clinical features, pathology and management is briefly discussed.

CASE REPORT

The patient a 58 year old post-menopausal woman was admitted on 5th May 1978 with complaints of:

1) Cough and mild breathlessness of about 3 months duration
2) Feeling of 'tightness' over the lower abdomen of about 8 months duration
3) Weight loss of about 2 kgm over a period of 6 months

She had no symptoms related to the bowels, urinary and genital tract.

Clinically, her general condition was fair. She appeared thin (weight of 31.5 kgm and height of 1.49 m) but not pale. Physical examination showed the presence of a right hydrothorax up to a level of around the 3rd intercostal space anteriorly. Examination of the abdomen revealed a rounded, hard and irregular suprapubic mass about 15 cm in diameter. Shifting dullness could just be elicited. Liver and spleen were not enlarged. At pelvic examination, the suprapubic mass was felt to be an irregularly enlarged uterus. The vulva, vagina and cervix did not show any abnormality except for atrophic changes. The appendages were not palpable. The inguinal, axillary and cervical lymph nodes were not enlarged.

Laboratory investigations showed the haemoglobin level to be 14 gm%. Serum urea, electrolytes, microscopic urinalysis, and ECG did not reveal any abnormality. A chest Xray performed on the 6th May 1978 confirmed gross right pleural effusion.

From the clinical history and examination, the differential diagnosis were:

1) A malignant uterine or ovarian tumour with secondaries to the right lung giving rise to the pleural effusion.

2) A uterine or ovarian tumour with pulmonary tuberculosis.
3) Meigs's Syndrome.

On the 11th May 1978, the patient was referred to a chest Physician to exclude pulmonary tuberculosis. Two pleural taps were subsequently carried out during which 2,000 c.c. of straw-coloured fluid was removed. A pleural biopsy was taken on the 12th May 1978. Both the pleural fluid and biopsy did not reveal any malignancy. Examination of the pleural fluid showed it to be an exudate of specific gravity of 1.031 and total protein of 4.7 gm% and showed mainly lymphocytic cells. Smears from the pleural fluid and sputum did not show any acid-fast bacilli. A culture for tuberculosis organism from the sputum and pleural fluid showed no growth. Mantoux test was positive. As a negative smear for acid-fast bacilli could not exclude pulmonary tuberculosis, she was started on antituberculosis therapy on 25th May 1978.

A laparotomy was performed on the 23rd June 1978. At laparotomy, a left solid ovarian tumour about 15 cm diameter with smooth unbroken capsule was found. It was freely mobile on the ovarian pedicle. The cut surface showed a whorled appearance. The right ovary, tubes and uterus were atrophic but normal looking. There was about 400 c.c. of straw-coloured ascitic fluid found in the peritoneal cavity. There were no palpable pelvic nor para-aortic lymph nodes. No abnormalities were detected in the liver, spleen, kidneys, omentum, mesentery and intestines. A total hysterectomy, bilateral salpingo-oophorectomy was performed.

On the 4th post-operative day, the right pleural effusion was at the level of the 3rd intercostal space anteriorly, confirmed by a chest Xray. By the 7th post-operative day, the pleural effusion could not be elicited clinically and the chest Xray showed minimal pleural effusion. Her antituberculosis therapy was discontinued post-operatively. The patient was discharged from the hospital on the 10th post-operative day. A chest Xray on the 14th post-operative day showed complete resolution of the pleural effusion.

PATHOLOGY REPORT

Specimen consists of uterus, cervix and bilateral appendages. The uterus and cervix together measures 6.5 cm × 4 cm × 3 cm. The fallopian tubes are normal. The right ovary is atrophied. Normal ovarian tissue is not seen on the left side. Attached to the left mesovarium is a well encapsulated smooth firm tumour measuring 11 cm × 11 cm × 8 cm. Cut sections reveal a solid tumour with a yellowish hue and interlacing trabeculae and whorls of whitish fibrous strands. Histologically the tumour is composed of bundles or fascicles of compact cellular fusiform cells separated by bands of less cellular fibrous tissue. The nuclei of the fusiform cells are oval and arranged more or less longitudinally to one another. Pleomorphism and mitoses are absent. Each fusiform tumour cell is surrounded by reticulin fibres and the cytoplasm contains large amount of fat. The macroscopic and microscopic features are those of an ovarian thecoma.

DISCUSSION

Meigs J. V.[9] in 1937 described a syndrome comprising of a fibroma of the ovary with ascites and hydrothorax in a report of 7 cases. This syndrome has been named after him and must fulfil the minimal criteria of (1) Pleural effusion, (2) Solid ovarian tumour (fibroma, granulosa cell tumour, thecoma and Brenner cell tumour) and (3) Clearing of effusion after removal of the tumour. Pelvic tumours other than solid ovarian tumours which fulfilled the other criteria have been termed as pseudo-Meigs's Syndrome.[10]. The patient in this case report has an ovarian thecoma proven histologically and fulfilled all the criteria of Meigs's Syndrome.

From the files of the Institute of Pathology, Singapore, there were 14 cases of thecoma and 71 cases of fibroma of the ovary reported over the period between 1968 and 1977.

The incidence of ovarian thecoma is around 1.8% of all ovarian tumours and accounts for 3% to 5% of all solid tumours (Falls, Ragins and Goldenberg, 1949, Sparling 1950, Greenhill 1950, Mansell and Hertig, 1955). It is a lesion of post-menopausal age. Clinically it may present with signs and symptoms of excessive oestrogen production such as post-menopausal bleeding. According to Patton and Patton (1948), symptoms are absent in 25% of cases.

Histologically in a typical case, the cells are like those of ordinary cortical stroma with plump and roughly spindle shaped nuclei, while the cytoplasm is basophilic. A cellular fibroma with fatty change is difficult if not impossible to distinguish from a thecoma on histological appearance alone. Greenblatt, Greenhill and Brown (1939) state that a high phospholipid content indicates thecoma rather than fibroma while Geist (1935) and Knight (1948) reported the presence of cholesterol and cholesterol esters in thecoma. In our patient, each fusiform tumour cell is surrounded by reticulin fibres and the cytoplasm contains large amount of fat consistent with ovarian thecoma. The age incidence of thecoma and fibromas are similar (Sternberg and Gaskill 1950) and this suggests that many of the fibromas

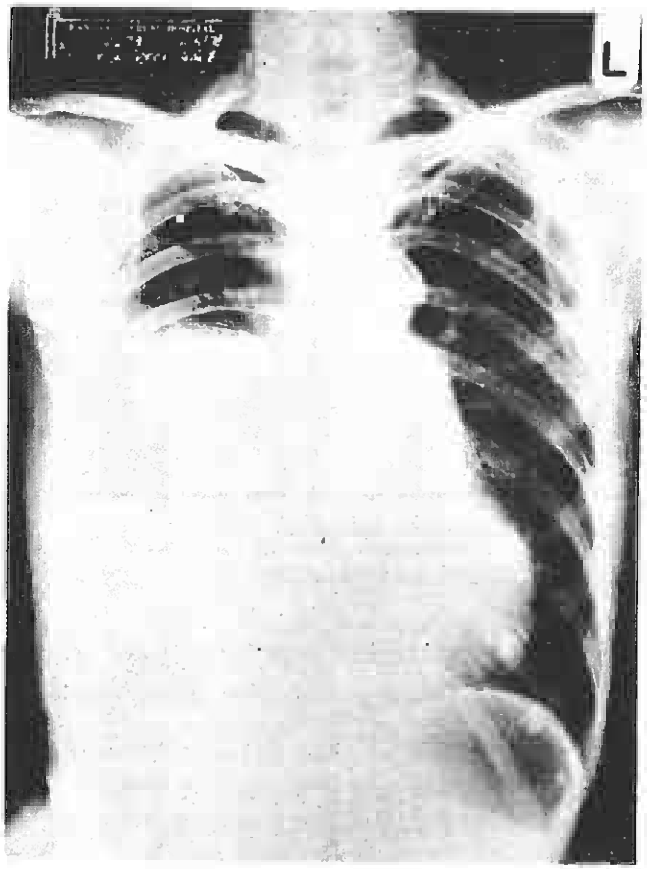


Fig. 1 Chest radiograph (P-A view) of patient showing a right pleural effusion on admission.

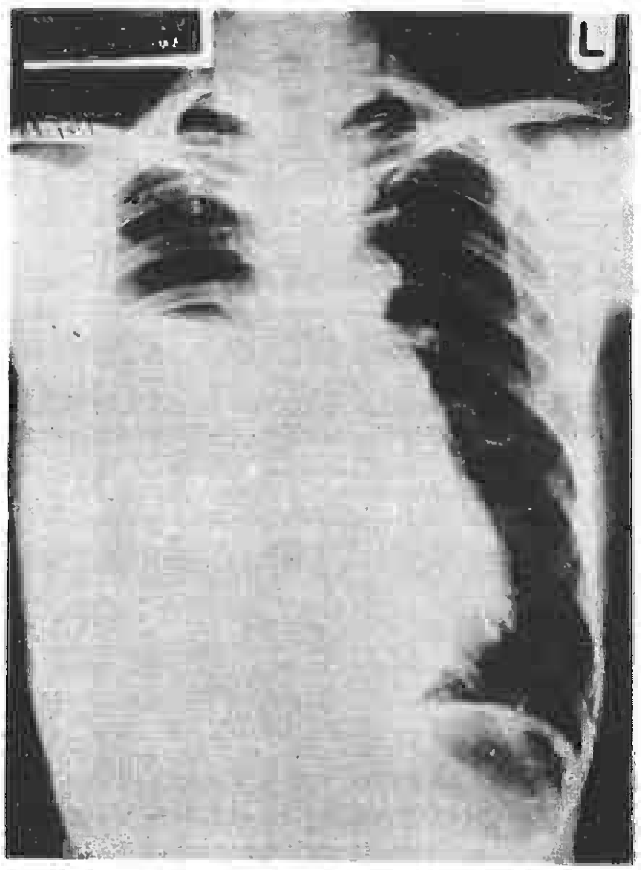
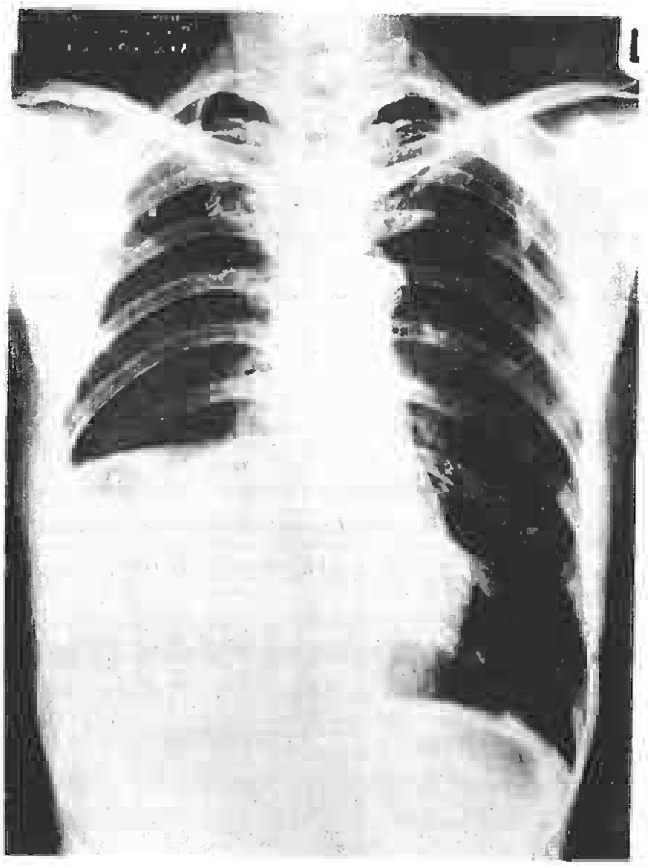


Fig. 2 chest radiograph of patient, pre-operatively after a pleural tap with a right pleural effusion.



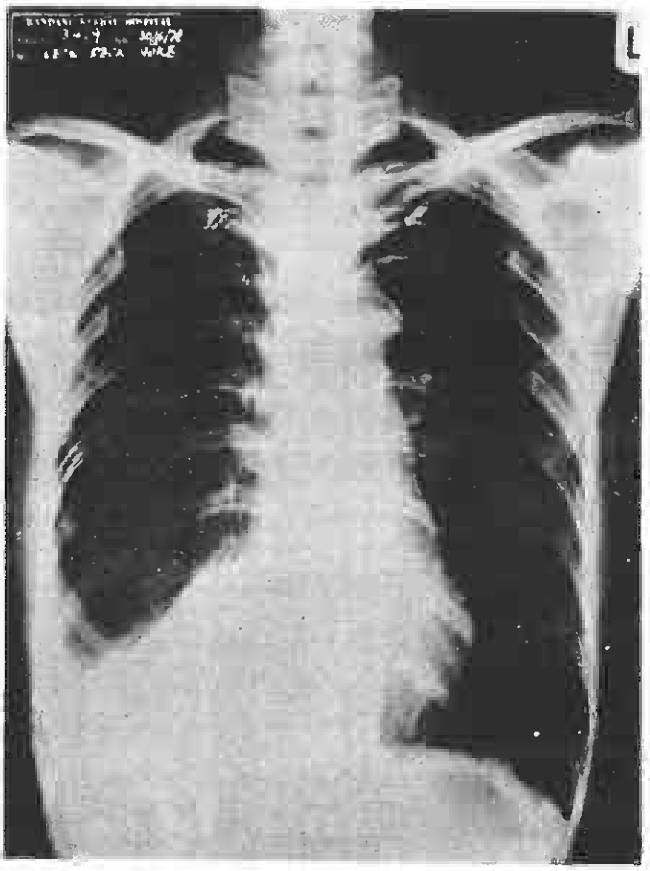


Fig. 3 & 4 Chest radiographs of the same patient with resolving right pleural effusion on the 4th and 7th post-operative day respectively.

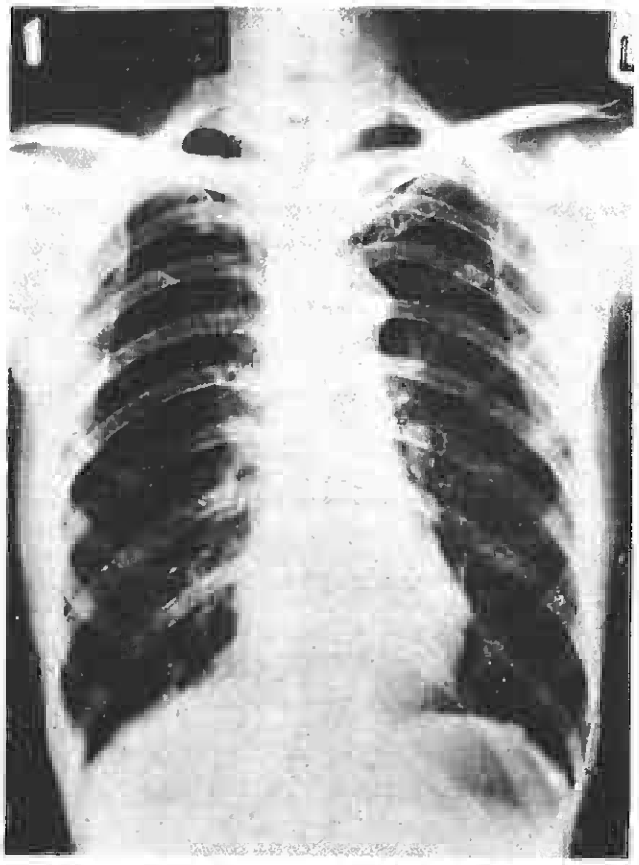


Fig. 5 Chest radiograph of patient with complete resolution of the right pleural effusion on the 14th post-operative day.

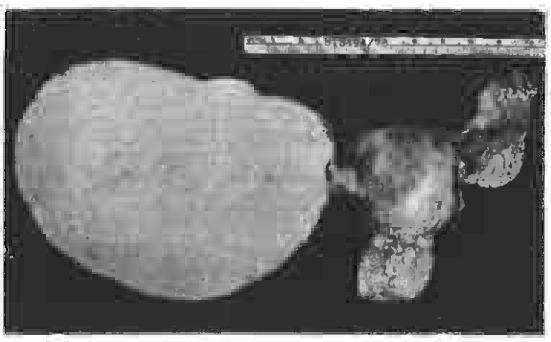


Fig. 6 Cut section of a left ovarian thecoma with interlacing bands and whorls of whitish fibrous tissue in a yellowish background.

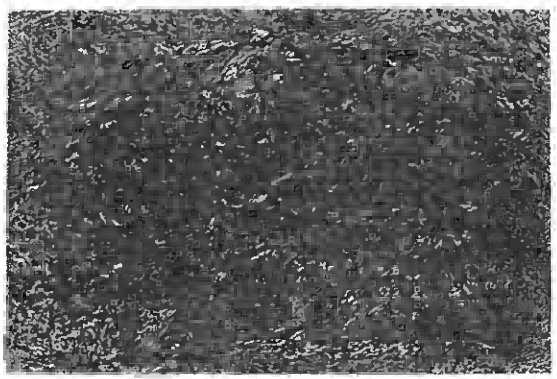


Fig. 7 Tumour composed of compact cellular fascicles of fusiform cells separated by bands of less cellular fibrous tissue (H & E × 100).

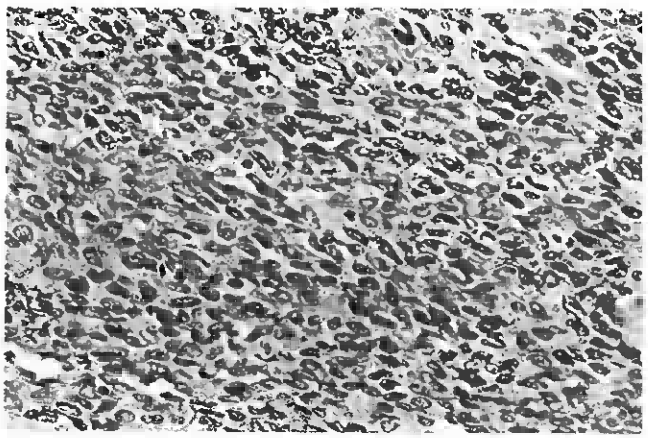


Fig. 8 High power view of the cellular fusiform cells with oval nuclei arranged longitudinally (H & E × 400).

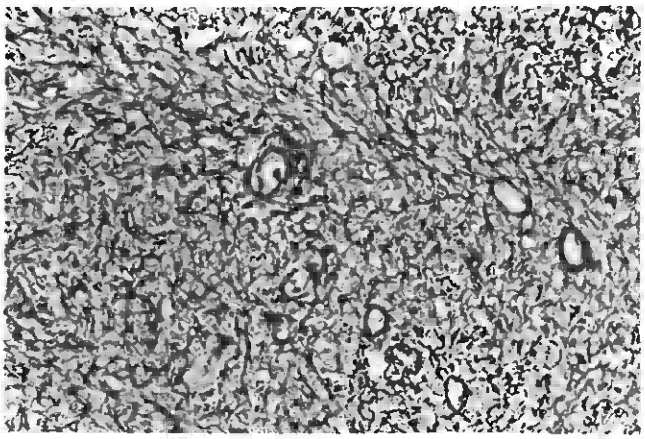


Fig. 9 Individual cells of the tumour are surrounded by reticulin fibres (Reticulin stain × 400).

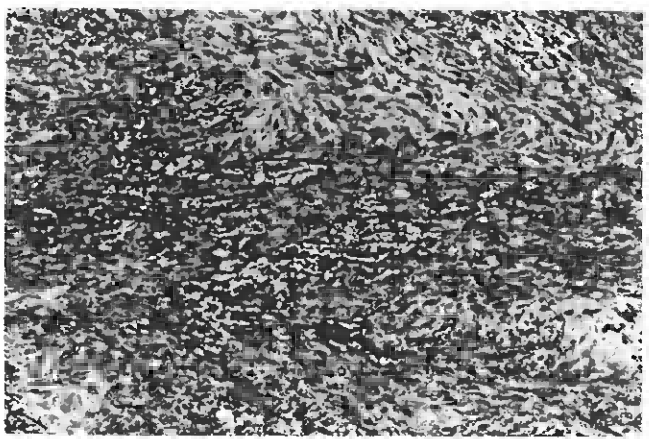


Fig. 10 Abundant small fat droplets in the cytoplasm of the fusiform tumour cells (Oil red 0 × 400).

may be thecomas which have undergone fibrous degeneration. Willis (1960) believes that all fibromas are merely fibrous theca cell tumours.

Meigs's Syndrome is very rare.

As far as we know, this is the first documented case in Singapore. In our case, there was a delay of one and a half months in operating on the patient because investigations could not exclude tuberculosis, although acid-fast bacilli could not be found from microscopic examination of sputum and pleural fluid. The finding that the pleural fluid was an exudate probably biased the Chest Physician towards tuberculosis rather than Meigs's Syndrome and could have influenced the delay. The pleural effusion could either be an exudate or transudate depending on the mechanism involved, although in most cases it is a transudate. There are many mechanisms postulated as to the presence of pleural effusion and ascites in Meigs's Syndrome. The mechanism reported were actual secretion by the tumour or peritoneum, venous obstruction, lymphatic obstruction, low serum proteins, toxins and inflammatory reaction with exudation[5-6, 9-12]. In our patient the fact that the pleural effusion resolved completely after operation confirms the diagnosis of Meigs's Syndrome.

ACKNOWLEDGEMENT

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