SARCOMA UTERUS
(Report of two cases)

by

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Uterus is the commonest site for genital sarcoma. Sarcoma of the uterus is a rare tumor. During the five years (1950-1955) in the Lying-in Hospital, Madras, there were 3,788 gynaecological admissions and only 2 cases of uterine sarcoma giving an incidence of 1 in 1894.

Pathogenesis

Sarcoma may arise from muscle or connective tissue of the uterine wall, from a myoma, from endometrial stroma or connective tissue sheath of the vessels. All these structures are of mesodermal origin. Sarcoma of the wall is ten times more common than that of the mucosa (Curtis). It arises more commonly from the embryonic muscle-fibres. Majority of the sarcomas originate in pre-existing myomas. In a series of 59 cases of sarcoma reported by Novak and Anderson, 66.1 per cent arose in myoma. Similarly, in MacFarlane's 42 cases, 64.3 per cent had pre-existing myoma. Only when it arises in the centre of a myoma or when other myomata coexist one can definitely state that sarcoma is secondary. But when it has spread to involve the whole of the uterine wall and is necrosed, it will be impossible to distinguish a primary sarcoma from one arising in a myoma. Besides, it may also be not possible to determine the site of its origin owing to the marked invasiveness of the growth into the surrounding structures.

Gross Appearance

The uterus appears enlarged and the serosal surface may show a knobby appearance or in advanced cases necrotic masses may be seen ulcerating through the serosa. On section, the tumor can be distinguished from a benign myoma by loss of whorled appearance. It looks more like brain-tissue, soft and friable with cavities due to necrosis and cannot be shelled out from the uterine wall. Those growing towards the mucosa may flatten the endometrium or ulcerate into the cavity. Some grow towards the peritoneal layer and spread into the surrounding structures. The endometrial sarcoma usually presents as a bulky polypoidal growth filling the uterine cavity and protruding through the cervix into the vagina.

Microscopic Appearance

Microscopically, these tumors can be divided into different types depending upon the shape of the predominant cells, spindle, round celled or mixed type, or its origin from mus-

cle or connective tissue as leiomyosarcoma (commonest), rhabdomyosarcoma (rarest) and fibrosarcoma. As most of the tumors arise from the muscle tissue, the spindle celled variety of sarcoma is the commonest. From the histologic picture alone, it is difficult to distinguish a sarcoma from a highly cellular myoma. "Some mistakes have been made and so much confusion has arisen that some capable gynaecological pathologists have made an overstatement that nothing short of metastasis is reliable for diagnosis" (Curtis). A frank sarcoma shows pleomorphism, anaplasia, hyperchromatism and marked mitotic activity of its component cells and often symplasmic multinucleated tumor giant cells.

Signs and Symptoms

Menometrorrhagia, postmenopausal bleeding or discharge often associated with rapid increase in the size of the fibroids (especially after menopause) are some of the prominent symptoms associated with uterine sarcoma. Diagnosis of a sarcoma is often made in the laboratory and rarely at the operation and much less so earlier. But every myomatous uterus particularly in postmenopausal group or one which looks soft and friable with absence of whorled appearance should be sectioned and studied carefully.

The spread of the tumor is by contiguity to adjacent structures. Blood borne metastases are more common and lungs are the commonest foci for secondary deposits. Lymphatic spread occurs infrequently.

Treatment

The treatment of choice is total hysterectomy with bilateral salpingo-oophorectomy followed by postoperative deep X-ray therapy. But the prognosis in uterine sarcoma is not as good as in carcinoma of the body of the uterus. According to MacFarlane, the five year survival is 29.6 per cent and ten year survivals about 22.2 per cent. The outlook is distinctly better in sarcomas originating in myomas and is worse in endometrial sarcomas. Randall reported a five year survival rate of 75 per cent in sarcomas originating in myoma whereas in those unassociated with myoma it was only 14.3 per cent.

Case Reports

Case 1: Mrs M., 54 years old, was admitted on 26-12-53 for abdominal tumour of 6 months' duration. She had ten full term deliveries and the last child was 12 years old. She had attained menopause 7 years ago and was not having any vaginal discharge until she noticed the abdominal swelling.

She was a fairly nourished individual. Clinically the heart and lungs did not reveal any abnormality. Abdominal examination showed a firm, fairly fixed, but not tender, midline swelling arising from the pelvis and extending to about midway between the symphysis pubis and the umbilicus. On vaginal examination, the cervix was small, uterus was enlarged to 18 to 20 weeks' size and nodular in areas; the fornices were free. A provisional diagnosis of multiple myoma of the uterus was made.

On 7-1-1954, laparotomy under heavy spinal anaesthesia showed that the uterus was the seat of a large vascular soft tumour adherent to the surrounding structures. While separating the adhesions, it burst and about 3 to 4 ounces of blood-stained fluid escaped and was aspirated from peritoneal cavity. The tumour wall was very friable. Both tubes and ovaries were adherent to

the tumour and pouch of Douglas. Total hysterectomy with bilateral salpingo-ooporectomy was done and abdomen was closed in layers.

The cut section of the tumour revealed a greyish friable mass with cavitation. In certain areas, anteriorly, the tumour had burst through the peritoneal layer of the uterus. Endometrial lining was thin and smooth. The pathologist's report was "Spindle celled sarcoma showing marked mitotic activity and anaplastic changes with areas of haemorrhage and necrosis. Few giant cells are also seen." (Fig. 1).

The postoperative period was fairly smooth. On the tenth day, skiagram of the chest was taken and it showed metastatic deposits in both lung fields (Fig. 2). She was discharged two weeks after the operation. The follow up revealed that she expired two months after she left the hospital.

Case 2: Mrs. S., aged 42 years, was admitted on 19-9-1955 with a complaint of tumour in the abdomen of 2 months' duration. Her periods were regular, at monthly intervals and lasted for 5 to 6 days, moderate in amount and were painless. Her last menstrual period was 15 days prior to the admission. She had six full-term spontaneous deliveries and the last childbirth was 13 years ago.

On examination, she was anaemic. Per abdomen there was a firm well defined smooth surfaced swelling in suprapubic region arising from the pelvis and extending to about 4 inches above symphysis pubis. It was not tender but had restricted mobility. Vaginal examination showed that the cervix was normal and uterus anteverted, normal sized, pushed to the left by a firm swelling arising from the right side and extending to about 4" from the right inguinal ligament. A provisional diagnosis of right sided ovarian tumour (? malignant) was made. Roentgenograph of the chest showed that the lung fields were clear.

After a transfusion with 350 ml. of 'B' group blood, laparotomy was done three days later.

The abdomen was opened under heavy spinal anaesthesia. The omentum was found completely adherent and covering a solid tumour arising from the pelvis. On separating it a vascular necrotic tumour with bluish spots on its surface and very friable was found to arise from the posterior wall of the fundus of the uterus. The tumour was found irregular in outline, spreading to either side with knob-like projections. The tubes and ovaries were healthy. But the uterovesical pouch was filled with necrotic material similar to that of the tumour. The bladder peritoneum was badly infiltrated and dissection was difficult. Total hysterectomy with bilateral salpingo-oophorectomy was done. The omentum and the liver were free from secondary deposits. The abdomen was closed in layers.

On section the specimen showed two myomata each about an inch in diameter on the anterior uterine wall. The tumour over the posterior wall was friable, soft and looking like a necrotic myoma. Endometrium was smooth and healthy.

Microscopically the tumour consisted mainly of sheets of spindle shaped cells showing hyperchromatic nuclei with numerous mitoses. Few giant cells were present (Figs. 3 & 4)—Myoma undergoing sarcomatous change. Endometrium showed proliferative phase. The necrotic material from bladder peritoneum showed similar sarcomatous pattern as in the uterus.

The postoperative period was uneventful. She was given a course of deep X-ray exposures. When she reported for a check up on 22-11-1955, there was no clinical evidence of secondary deposits; but a month later she was admitted with irregular fever and hard nodular masses filling the abdomen upto the xiphisternum. She expired on 21-1-1956.

Discussion

Sarcomatous change in myoma occurs in 1.0% of the cases, though the correct incidence is less than 1 per cent (Herbut). In our hospital 118 cases of fibroids were operated during the past 5 years (1950-1955) and of these 2 had undergone sarcomatous change. Majority of the cases report-

ed are in women beyond 40 years. Seventy-five per cent of the patients in MacFarlane's series were over 40 years and the youngest was 22 years. Both the cases reported by us were over 40 years.

Preoperative diagnosis of sarcoma is very rarely made. In both the cases, there was no history of pain in the abdomen, irregular vaginal bleeding or rapid increase in the size of the abdominal tumour. The absence of vaginal bleeding could be explained by the fact that in both of them, the tumour was growing towards the serosa and the endometrium was not invaded by the growth. The correct diagnosis was made only during the operation. In case 1, the pulmonary metastases must have occurred earlier to the laparotomy though the patient did not complain of cough or haemoptysis. If roentgenograph of the chest was taken on admission the operation could have been avoided.

Sarcoma is no doubt an extremely fatal condition. Best treatment is total hysterectomy with bilateral salpingo-oophorectomy followed by irradiation to the pelvis. But the chances of recurrence are very high and the survival rate is as low as 25-30 per cent. Case 2 remained free from symptoms only for a short time after the deep X-ray therapy. She was readmitted with recurrence 3 months after the operation and died a month later.

Summary

1. Sarcomatous change in myoma occurs in about 1 per cent of the cases and mostly in postmenopausal women.

2. Two cases of sarcomatous change in a series of 118 cases of uterine myoma have been described.

3. Prognosis in these cases is bad as dissemination of the growth occurs rapidly. Both the cases died within 4 months after the operation.

References

1. Curtis A.H., Textbook of Gynaecology; W.B. Saunders, London, 6th Edition, 365, 1950.
2. Herbut P.A.: Gynaecological and Obstetrical Pathology; Lea & Febiger, Philadelphia, 315, 1953.
3. MacFarlane K. T.; Am. J. Obstet. Gynaec.; 59, 1305, 1950.
4. Novak E. and Anderson D.F.: Am. J. Obstet. Gynaec.; 34, 740, 1937.
5. Randall C. L.: Am. J. Obstet. Gynaec.; 45, 445, 1943.

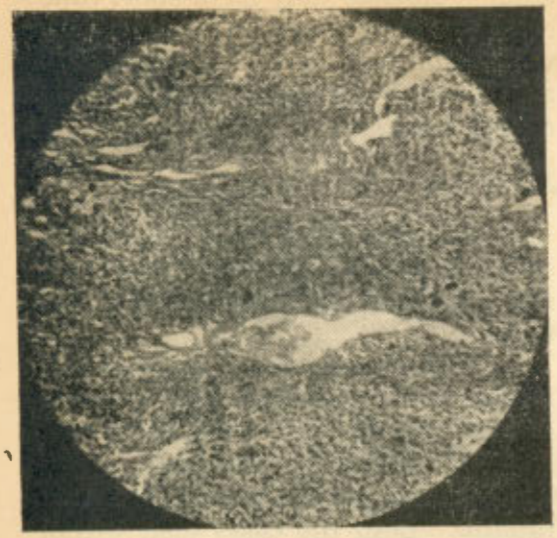

Fig. 1
Spindle cell sarcoma with marked mitotic activity and few tumour giant cells (L.P.).

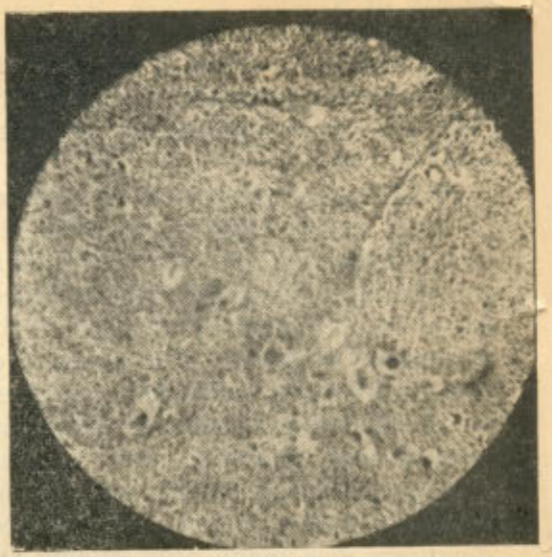

Fig. 3
Sarcomatous change in myoma with numerous giant cells (L.P.)

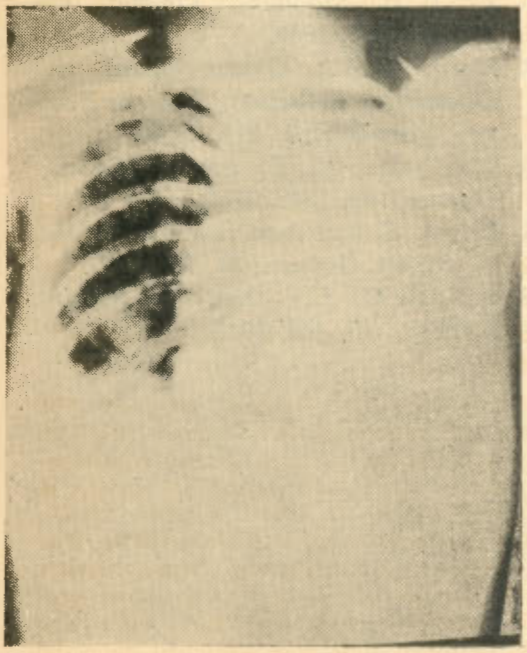

Fig. 2
Skiagram of the chest showing pulmonary metastatic deposits.

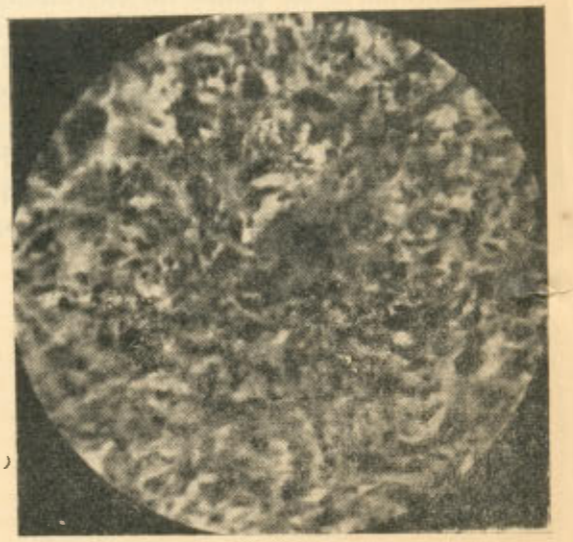

Fig. 4
Spindle cell sarcoma showing marked mitosis, hyperchromatism and giant cells (H.P.).