LEIOMYOSARCOMA OF UTERUS

by

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Leiomyosarcoma forms the major group of 'sarcomas of uterus'. The incidence of this tumour is variable depending much on the histological criteria of the diagnosis. The commonest origin is probably a sarcomatous change in a pre-existing leiomyoma. This change is at times difficult to detect and thus most of the cases of 'cellular leiomyomas' were designated as uterine leiomyosarcoma (Gudgeon, 1968 and Bartsich *et al.*, 1968). The overall incidence of this change is less than 1% (MacFarlane, 1950; Fenton and Burke, 1952; Novak, 1958 and Gudgeon, 1968).

The authors have come across a single case under review during the period 1965 to 1969. The rarity of this lesion has prompted them to publish the same.

CASE REPORT

H., a Muslim female aged 50 years was admitted in the Gynaecological Ward of Jawaharlal Nehru Medical College Hospital, A. M. U., Aligarh on 30th June, 1969 with complaints of profuse bleeding per vagina, for the last 15 days and pain in the back for the last 10 days. She had seven normal deliveries and the last one was 16 years back. Her menstrual periods were regular before this episode with the average duration of 5 days and cycle of 28 days.

On examination she was found to be severely anaemic, with normal B. P. (130/90 mm of Hg.). Cardiovascular system was normal and respiratory system showed no abnormality. On abdominal examination a firm mass was palpable in the subumbilical region 2″ above symphysis pubis. On vaginal examination uterus was found to be anteverted, 14 weeks' pregnant size, irregularly enlarged and firm in consistency. Its mobility was restricted. Cervix was healthy. Haemoglobin was 4 gm%. Dilatation and curettage was done. "The cavity was found to be irregular. Plenty of thick polypoidal curettings were obtained.

Clinically the diagnosis of 'multiple fibroid uterus' was made.

Histopathological examination of the curettings

Showed a mesenchymal growth. It consisted of diffuse masses and sheets of either spheroidal or elongated cells resembling smooth muscle cells. Nuclei of the cells were hyperchromatic and vesicular with fair number of typical and atypical mitotic figures (Fig. 1). No endometrial glands were seen in the section. At places there was even a tendency to form whorls or lobulations. Thin fibrous septa and presence of collagen tissue could be seen at places.

The case was diagnosed as leiomyosarcoma of uterus. After the histology report of leiomyosarcoma, X-ray chest was done which showed no evidence of secondaries. Total hysterectomy with

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bilateral salpingo-ophorectomy was performed. On opening the abdomen, uterus was found to be enlarged to about 14 weeks size. Serosal surface was not involved. There were no adhesions with the surrounding organs. The uterus measured 14 x 10 cm. to a depth of 8 cm. in size and was firm in consistency. The cut surface showed irregular, nodular masses filling the entire uterine cavity which were attached to the fundus as well as to the posterior wall of the uterus. The nodules varied in size and the biggest one measured 6 x 5 cm. x 2 cm. (Fig. 2). Entire growth was of greyish-white colour. The surface was shiny except at one place where it was rough and necrotic.

Ovary of both sides were cystic, bluish in colour and measure 4 x 1.5 cm. in size. On cutting, a unilocular cyst was found in each ovary filled with dark brown fluid.

There was no extension of the growth or any evidence of metastatic deposits. The sections from the uterine growth presented the same histological picture as that of endometrial curettage. The additional interesting feature was the invasion of blood vessels by the tumour cells (Fig. 3). The patient was discharged from the hospital on 10th August, 1969 in good condition, with no evidence of secondaries. Deep rays, were not given due to lack of facilities. To this date the patient is clinically in good condition and shows no evidence of metastasis.

Discussion

The outstanding features of the present case were a female aged 50 years with a history of bleeding per vaginam for 15 days, bulky uterus on clinical examination, irregular multiple nodular masses filling the entire uterine cavity on gross pathology and the histological appearance of the tumour being leiomyosarcoma.

Leiomyosarcoma may arise from a pre-existing leiomyoma, the commonest occurrence, or directly from the uterine wall or at times from constituents of blood vessels. The tumour usually occurs in the 5th or 6th decade of life and the average age for this tumour as reported by Gudgeon (1968) was 50.33 years and by MacFarlane (1950) as 50.9 years. Spiro and Koss (1965) found it to be 47 years. In the present case the age of the patient was 50 years.

It is difficult to ascertain the incidence of leiomyosarcoma because in the earlier reports cases of 'cellular leiomyomas in whom histology do not show invasion outside the limits of myoma or vascular channels were also designated as leiomyosarcoma. Two recent reports about its incidence by Gudgeon (1968) and Bartsich *et al.* (1968) have mentioned it to be as 1.9% and 1.28% of all the uterine malignancies respectively. Spiro and Koss (1965) while studying the incidence of this tumour during the period of 1939 to 1959 at Memorial Hospital, New York, reported it to be 1.3% of uterine cancers.

There is no specific relationship of this tumour to parity (Aaro and Dockerty, 1959; Spiro and Koss, 1965 and Gudgeon, 1968). In the present case the patient had seven normal full term deliveries though in the series of 62 cases of Spiro and Koss (1965) there were only 2 cases with 3 children. Gudgeon (1968) has mentioned one case of leiomyosarcoma in his series having 10 living children.

The main presenting symptom in these cases is abnormal vaginal bleeding either in the form of pre-menopausal menorrhagia, metrorrhagia or irregular periods, or as post menopausal bleeding. In this case she had premenopausal bleeding in the form of menorrhagia. Other symptoms like abdominal pain, abdominal mass, vaginal discharge and occasional urinary troubles may also be observed. Over all symptomatology is generally not very suggestive of the tumour and the diagnosis is made on

histopathological examination of the tissue. In this case the diagnosis was made by curettage.

Grossly the tumour may present as a single nodule, diffuse involvement of the myometrium or multiple polypoidal nodular growth filling the uterine cavity as was observed in the case under review, where it was difficult to differentiate it from leiomyoma on gross examination. However, certain features like focal loss of whorled appearance, haemorrhage, necrosis or liquefaction and variation of colour may suggest the malignant change. It may at times involve the serosal surface producing adhesions with the surrounding structures, an important feature to assess the prognosis, but in the case under review serosal surface was not involved.

Microscopic pathology of leiomyosarcoma is similar to other malignant mesenchymal growths and consists of varying number of spheroidal, elongated and giant cells with fair number of typical and atypical mitotic figures. At places whorled appearance may be observed. Sometimes, it is difficult to differentiate it from 'cellular leiomyoma'. Certain established criteria like cellularity, pleomorphism, the presence of giant cells and mitotic figures, anaplasia and evidence of invasion of blood vessels for the diagnosis of leiomyosarcoma have been put forward by some workers (Aaro and Dockerty, 1959; Evans, 1920; MacFarlane, 1950 and Schiffer *et al.*, 1955). Gudgeon (1968) had laid much emphasis on the last point and accordingly the sarcomatous change is to be accepted only when the invasion of blood vessels is demonstrated. The diagnosis of leiomyosarcoma in this patient was made on the histological criteria enumerated above.

Certain investigators (MacFarlane, 1950; Schiffer *et al.*, 1956; Aaro and Dockerty, 1959; Taylor and Norris. 1968 and Finn, 1950) have reported the relationship of irradiation and subsequent development of uterine sarcoma but others (Bartsich *et al.*, 1968 and Gudgeon, 1968) are of the opinion that irradiation has nothing to do with this tumour.

The treatment of choice in leiomyosarcoma is total hysterectomy with bilateral salpingo-oophorectomy. Radiation is of little value, though MacFarlane (1950) favours its use. In the case under study bilateral salpingo-oophorectomy was performed. The patient could not be given the radiation treatment due to lack of facilities.

The prognosis of the case usually depends on the local spread of the tumour and generally the cases in whom the adjacent structure were involved proved to be fatal (Spiro and Koss, 1965). Some authors (Evans, 1920; Novak, 1958 and Aaro and Dockerty, 1959) have reported that the number of mitotic figures parallels the clinical malignancy in these tumours, though Gudgeon (1968) fails to demonstrate any such relationship. Usually the cases in whom the tumour develops in a leiomyoma have a better prognosis. The case reported here is still alive and seems to be progressing well.

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Summary

A case of leiomyosarcoma of the uterus occurring in a female of 50 years with a history of vaginal bleeding for 15 days has been reported. The literature regarding its incidence, histological cri-

teria for diagnosis and prognosis has been briefly reviewed.

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See Figs. on Art Paper XII