Scholars Journal of Medical Case Reports
Sch J Med Case Rep 2017; 5(9):532-533
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(An International Publisher for Academic and Scientific Resources)

ISSN 2347-6559 (Online)
ISSN 2347-9507 (Print)

Cellualr Leiomyoma in a 35 Year Old Female

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Article History
Received: 04.09.2017
Accepted: 09.09.2017
Published:30.09.2017

DOI:
10.36347/sjmcr.2017.v05i09.005

Abstract: Leiomyomas or fibromyomas , commonly called as fibroids are the most common uterine tumours of smooth muscle origin, often admixed with variable amount of fibrous tissue component. About 20% of women above the age of 30 years harbour uterine myomas of varying size. Vast majority of them are benign and cause no symptoms. Malignant transformation occurs in less than 0.5% of leiomyomas. Symptomatic cases may produce abnormal uterine bleeding, pain, symptoms due to surrounding structures and infertility. The cause of leiomyomas is unknown but the possible stimulus to their proliferation is oestrogen. This is evidenced by increase in their size in pregnancy and high dose estrogen therapy and their regression following menopause and castration. Other possible factors implicated in its etiology are human growth harmone and sterility.
Keywords: Leiomyoma, cellular, abnormal bleeding

INTRODUCTION

Uterine leiomyomas are benign tumors commonly encountered in gynaecological practice. Growth of these tumors depends on estrogen and progesterone hormone. There are various histological types of leiomyoma. Cellular leiomyoma is one of the rare entities. Two differential diagnoses of cellular leiomyoma are leiomyosarcoma and endometrial stromal neoplasm. Leiomyomas are most frequently located in the uterus where they occur within the myometrium, the serosa or just underneath the endometrium. Subserosal and submucosal leiomyomas may develop pedicles and protrude as pedunculated myomas. Leiomyomas may involve cervix and broad ligament [1].

CASE REPORT

A 35 year old female presented to gynaecological department with complaints of abdominal pain and irregular menstruation from last 3 months. There was no history of any hormonal pills intake and use of contraceptive devices. She had one live children without any bad obstetric history. She had regular menstrual cycle of 3-4/28 days with average flow previously. There was no history of any abnormal discharge per vaginum.

Local abdominal examination was unremarkable. Her gynaecological examination revealed uniformly enlarged, non-tender uterus corresponding to 16 weeks size. Routine blood and biochemical examination did not show abnormal results except lower hemoglobin value (9.5 gm/dl). Ultrasonography (USG) abdomen revealed a heterogeneous hypo echoic intramural solid mass lesion and was diagnosed as Fibroid uterus. Hysterectomy was done and sent for histopathology. Sections were taken from fibroid area which was measuring 4x3x2cm. Cut section revealed whorling pattern.

Histopathologically showed increased cellularity revealing spindle cells with fusiform shape of nuclei and scant to moderate amount of cytoplasm. Few large thick walled muscular vessels were also identified favouring a diagnosis of cellular leiomyoma over stromal tumor [Figure 1 & 2].

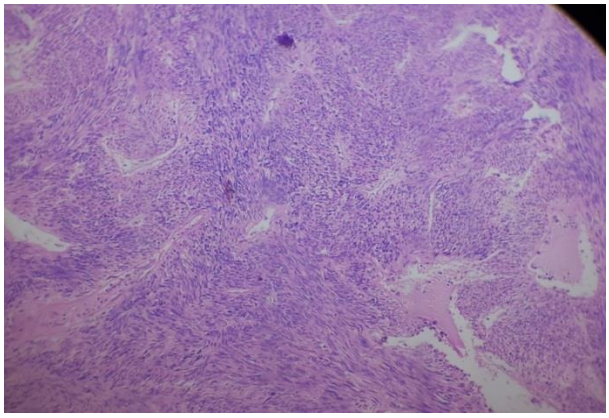

Fig-1: Section showing tumour tissue arranged in highly interlacing fascicles with increased cellularity – Cellular Leiomyoma

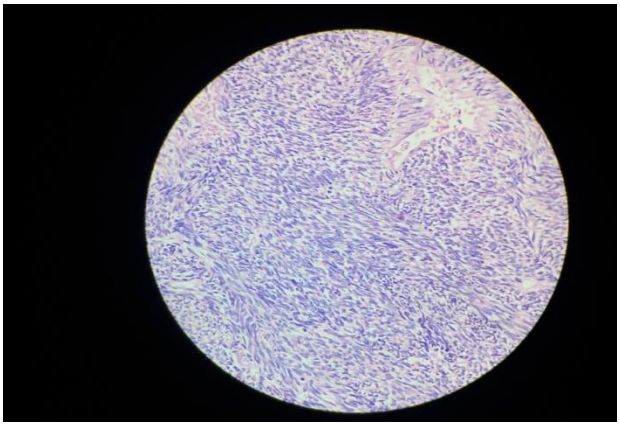

Fig-2: Section showing increased cellularity with whorling pattern – Cellular Leiomyoma

DISCUSSION

Leiomyomas are the most common benign neoplasms of uterus. Estrogen and progesterone hormones act as growth promoters of uterine leiomyoma. Transforming growth factor-β, basic fibroblast growth factor, epidermal growth factor, and insulin-like growth factor-I, are found to be elevated in leiomyomas. These growth factors may be the effectors of estrogen and progesterone dependent growth of these tumors [1, 2]. Nonrandom cytogenetic abnormalities have been found in about 40% of tumors examined. Translocation between chromosomes 12 and 14 (20%), deletion of chromosome 7 (17%) and aberrations of 6p21 (including deletions, inversions, translocations,and insertions) and trisomy 12 are known cytogenetic abnormalities in uterine leiomyomas. It has been also associated with complete loss of short arm of chromosome 1 [3, 4].

Secondary changes in leiomyomas are detectable in majority of cases [1]. These include hyaline changes, mucoid, myxoid or myxomatous changes, calcification, cystic changes and fatty metamorphosis. Various histological variants of leiomyomas identified in the literature include, cellular leiomyoma, apoplectic leiomyoma, leiomyoma with lymphoid infiltration, atypical (bizarre, symplastic or pleomorphic) leiomyoma, lipo leiomyoma, palisaded leiomyoma, epithelioid (clear cell) leiomyoma, cotyledonoid dissecting leiomyoma, parasitic leiomyoma, leiomyoma with skeletal muscle differentiation, diffuse leiomyomatosis, intravenous leiomyomatosis, benign metastasizing leiomyoma and mitotically active leiomyoma [1, 4].

WHO described the cellular leiomyomas as a variant of leiomyoma having cellularity which is significantly higher than that of the surrounding myometrium but with clinical behavior identical to usual leiomyomas. They lack tumor necrosis. But they have moderate to severe atypia and infrequent mitoses. Cellular leiomyomas without significant atypia, necrosis or high mitotic count carry a good prognosis similar to the usual leiomyoma [3].

Gross appearance of cellular leiomyomas may resemble typical leiomyomas but often have a fleshier sectioned surface. Microscopically, cellular leiomyomas almost always have low mitotic count (<5MF/HPF). Cellular leiomyomas are strong differential diagnosis of endometrial stromal tumors. Various histological features are helpful in the differential diagnosis of these two neoplasms. In young women wishing to retain their fertility or in older women with high surgical risk it is very important to differentiate the two tumors. To differentiate these two, imaging studies, hysteroscopy or repeat sampling should be considered before hysterectomy.

To conclude, uterine leiomyomas are common benign tumors in gynaecological histopathology specimens. Secondary changes and variations in morphology especially increased cellularity, increased mitoses and nuclear atypia create diagnostic dilemma.

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