International Journal of Basic and Applied Medical Sciences ISSN: 2277-2103 (Online)
An Open Access, Online International Journal Available at http://www.cibtech.org/jms.htm
2016 Vol. 6 (2) May-August, pp. 100-103/Gurram
Case Report

CELLULAR LEIOMYOMA - A RARE BENIGN UTERINE TUMOUR

***Ammbalal Gurram**
Pawana Hospital Pune, India
**Author for Correspondence*

ABSTRACT
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 leiomysarcoma and endometrial stromal neoplasm. Here I report a case of cellular leiomyoma in a 22 year old female.

Keywords: *Uterine Leiomyoma, Cellular Leiomyoma*

INTRODUCTION
Leiomyomas are benign smooth muscle tumours of the uterus. Most fibroids don't cause symptoms and only 10-40 % of who have fibroids require treatment which also depend on size, location and number of fibroids.
Uterine neoplasms range from benign leiomyomas low grade to high grade leiomyosarcomas. Secondary changes in leiomyomas are Detectable in majority of cases (Flake *et al.,* 2003).
Leiomyosarcomas are usually asymptomatic until they reach size large enough and they occur usually in perimenopausal and postmenopausal women.
Although routine histopathological examination is sufficient to distinguish endometrial stromal sarcoma and highly cellular leiomyoma, on several occasions it becomes great diagnostic challenge to pathologist. In such cases pathologist resolve this dilemma by doing immunohistochemistry as diagnostic aid for arriving at final diagnosis.
Cellular leiomyoma are significantly more cellular than the normal myometrium but lacks nuclear atypia, tumoue cell necrosis or increased mitotic activity. The cells are small and round to spindle shaped (Ciavattini *et al.,* 2013; Tavassoli and Deville, 2003). The natural history same as the typical cellular leiomyoma.

CASES
A 22-year young lady presented on 2.7.2016 with lump in abdomen with normal menstrual history. On general examination her vitals were stable. On per abdomen examination soft to firm mass palpable.
She was advised Ultrasound scan which showed 15x15x8cm well defined heterogeneous hypo echoic mass lesion noted. Seen adjacent to fundus of the uterus and it is not seen separately from fundus. The lesion contains cystic areas. Lesion extends up to level of umbilicus but left ovary could not be visualized. Mild ascitis present. Impression ---? large pedunculated fibroid with degenerative changes, ?? Sarcoma ??? left ovarian neoplasm.
She was advised CT Scan pelvis with contrast which showed large 17x15x10 CM heterogeneously enhancing mass lesion in pelvis. Left ovary not seen separately suggestive of ovarian neoplastic etiology. Mild ascitis present. Mild fullness in left PC System.
Routine investigations were done along with CA 125, CEA, LDH, AFP and Sr BHCG. All reports were in normal range.
Oncosurgeon opinion taken and patient planned for staging laprotomy with frozen section. Patient and her parents were counseled about possibility of ovariotomy, omentectomy sos pan hysterectomy.
Patient was given spinal with epidural anaesthesia for staging laprotomy on 16.7.2016.
Abdomen opened in layers by midline incision around 15 cm and ascitic fluid taken for cytology. Mass was delivered out of incision both ovaries were normal. This mass approximately 17x16 cm arising from

uterus slightly from left side and its blood supply was from omentum. Excision of mass was done and sent for frozen section which was suggestive of no malignant component and suggested immunohistochemistry to rule out from endometrial stromal sarcoma. It was diagnostic dilemma on frozen section. Final report awaited after observing more sections.

Uterus, tubes and ovaries were saved. Uterus sutured at fundues with vicryl no 1 and abdomen closed in layers.

Immunohistochemistry was normal and histopathology report suggestive of cellular leiomyoma. Postoperative period was uneventful.

The operative procedure of this case can be seen at following link http://youtu.be/aRVQ97dXdql

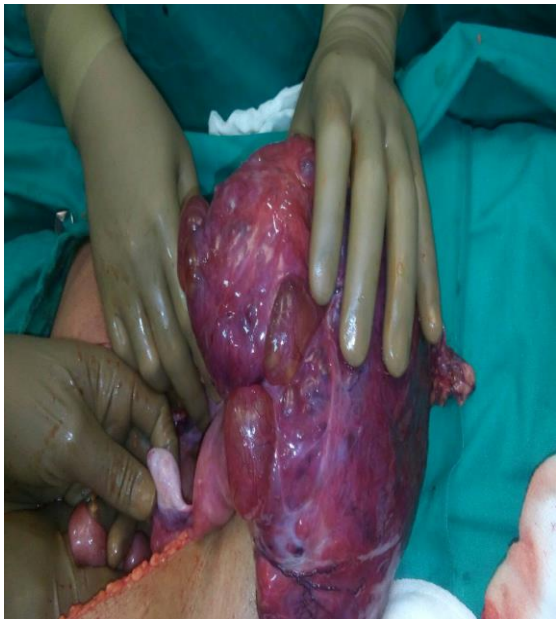

Figure 1

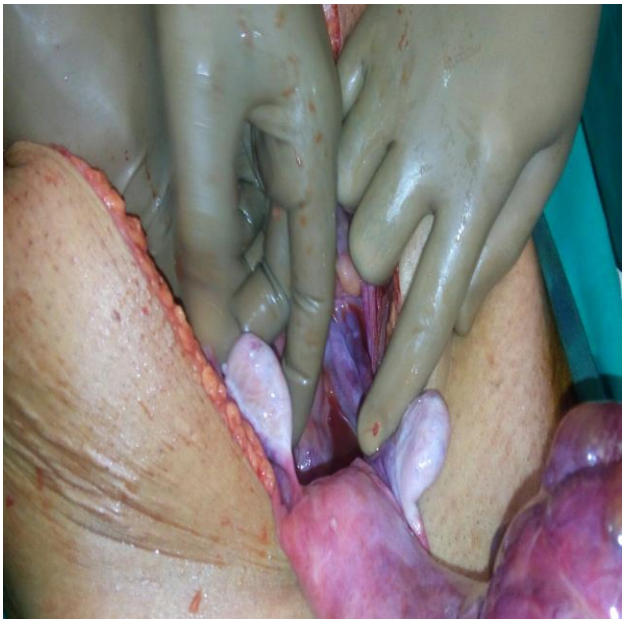

Figure 2

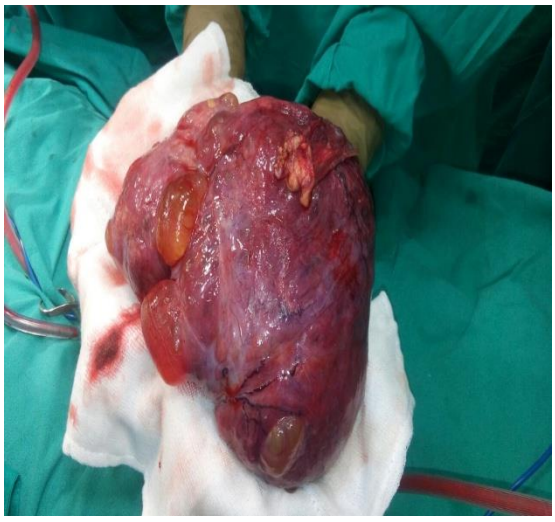

Figure 3

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 (Flake *et al.,* 2003; Ciavattini *et al.,* 2013). 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 (Tavassoli and Deville, 2003; Hodge *et al.,* 2014).

Secondary changes in leiomyomas are detectable in majority of cases (Flake *et al.,* 2003). 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 (Flake *et al.,* 2003; Sangle and Lele, 2011). 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 (Tavassoli and Deville, 2003). 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 (Manjula *et al.,* 2011; Oliva *et al.,* 1995). To differentiate these two, imaging studies, hysteroscopy or repeat sampling should be considered before hysterectomy (Bell *et al.,* 1994).

Conclusion

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. This case of cellular leiomyomain young female based on clinicoradiological and pathological findings notably primary diagnosis of leiomyoma. Differential diagnosis of such cases is very crucial which include endometrial stromal sarcoma, dysgerminoma and other ovarian tumours.

Delivery of appropriate treatment should be systemically considered due to young female unmarried status and interest in fertility.

Ethical Statement

There are no ethical issues and no financial association regarding the case.

REFERENCES

Bell SW, Kempson RL and Hendrickson MR (1994). Problematic uterine smooth muscle neoplasmsn: A clinicopathologic study of 213 cases. *The American Journal of Surgical Pathology* **18** 535-58.

Ciavattini A, Di Giuseppe J, Stortoni P, Stortoni P, Montik N, Giannubilo SR *et al.*, (2013). Uterine fibroids: pathogenesis and interactions with endometrium and endomyometrial junction. *Obstetrics and Gynecology International* **2013** 173184.

Flake GP, Anderson J and Dixon D (2003). Etiology and pathogenesis of uterine leiomyomas: a review. *Environmental Health Perspectives* **111** 1037-54.

Hodge JC, Pearce KE, Clayton AC, Taran FA and Stewart EA (2014). Uterine cellular leiomyomata with chromosome 1p deletions represent a distinct entity. *American Journal of Obstetrics & Gynecology* **210** 572.e1-7.

Manjula K, Kadam SR and Chandrasekhar HR (2011). Variants of leiomyoma: Histomorphological study of tumors of myometrium. *Journal of South Asian Federation of Obstetrics and Gynaecology*, *JSAFOG* **3** 89-92.

Oliva E, Young RH, Clement PB, Bhan AK and Scully RE (1995). Cellular benign mesenchymal tumors of the uterus: A comparative morphologic and immunohistochemical analysis of 33 highly cellular leiomyomas and six endometrial stromal nodules, two frequently confused tumors. *The American Journal of Surgical Pathology* **19** 757-68.

Sangle NA and Lele SM (2011). Uterine mesenchymaltumors. *Indian Journal of Pathology and Microbiology* **54** 243-53.

Tavassoli FA and Deville P edition (2003). In: World Health Organization of Tumors. *Pathology and Genetics of Tumors of the Breast and Female Genital Organs.* (France, Lyon: IARC Press) 236-42.