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A Case Report on a Rare Variant of Fibroid Uterus

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Abstract: ***Aim: to report a case of a rare variant of fibroid uterus. Introduction: Leiomyoma of the uterus is the most common tumor of the female genital tract. Case: A case of 31 yrs unmarried female with complaints of heavy menstrual bleeding for past 1 and half year associated with clots and congestive pattern of dysmenorrhoea. On Ultrasound of pelvis, she was diagnosed fibroid uterus. She was managed surgically by open myomectomy. HPE sample sent showed mitotically active and cellular leiomyoma. Conclusion: On histopathological examination, most leiomyomas are usually myomas, sometimes we may encounter rare variants. Although rare, these variants of leiomyoma have a risk of malignant recurrences of leiomyosarcoma even after surgical management. Therefore, there is a need for follow up in such patients.***

Keywords: Leiomyoma, leiomyosarcoma, fibroid uterus,myomas, myomectomy.

1. Introduction

The variants of leiomyoma are considered as rare pelvic tumors. The variant rate is approximately 1-10%. Three variants of this rare pelvic tumor include sleiomyoma with bizzare nuclei, cellular leiomyoma and mitotically active leiomyoma. These variants are considered analogous to leiomyosarcoma. Mitotically active leiomyoma have 5-20 mitotic figures which are high in number whereas cellular leiomyoma with bizarre nuclei has decreased mitotic counts. Nuclear atypia which is seen in moderate in leiomyoma with bizarre nuclei is absent in mitotically active leiomyoma. On the other hand cellular leiomyoma which is antithetical has raised lesion cellularity compared to surrounding myometrial tissue. The symptoms and findings shown by pelvic examination in leiomyoma variants are analogous to that of leiomyosarcoma. The best modem of diagnostic tools such as imaging tools, immunohistochemistry, molecular genetic analysis have certain limitations in differentiating uterine mesenchymal tumors. The lack of accurate diagnostic tools is yet a void to be filled in. It was reported that bizzareleiomyoma and leiomyosarcoma had imbricate immunoreactivity for p16, p53 and Ki-67 and staining patterns. Leiomyosarcoma and atypical leiomyomapartake same micro RNA signatures. MED12 mutations which are specific to uterine leiomyomas are also seen in leiomyosarcoma. Positron emission tomography, Computed Tomography (CT) and Magnetic Resonance Imaging(MRI) have limited benefit in differentiating leiomyoma from leiomyosarcoma. Definitive diagnosis is confirmed only by histopathology of specimens following myomectomy or hysterectomy. Management part is quite similar to normal one. However recurrence risk of nonmalignant variants remains ambiguous in spite of previous reported cases of rare recurrent malignancies.

2. Case Report

A 31 years old unmarried female presented to Obstetrics and Gynaecologyopd in SBMCH with complaints of heavy menstrual bleeding for 1 and half years, with 5-6 days of flow/30 days of cycle, associated with clots and congestive pattern of dysmenorrhea. Previously she had regular menstrual cycles with normal flow.

She was a known case of type 2 diabetes mellitus on insulin therapy and a case of chronic pancreatitis.

On Examination, she was moderately built with mild pallor. Her pulse rate was regular at 82/min and blood pressure-120/70mmHg. The cardiovascular system and respiratory system examination was normal.

Abdominal examination showed palpable mass corresponding to 18-20 weeks gravid uterine size with restricted mobility, firm in consistency, non tender, lower border could not be made out distinguisng it from ovarian pathology, and no free fluid was elicited. On per speculum examination: cervix and vagina looked healthy with no evidence of any abnormal discharge. On per vaginal examination, cervix was firm, uterus 18-20 weeks of gestational size, non mobile, non tender, firm in consistency, posterior fornix fullness and other fornices free.

She was medically managed with anti-fibrinolytics (Tablet. Tranexemic acid 500mg four times a day for 4 days), cyclical Oral contraceptive pills (Tablet. Primolut –N twice a day for 21 days every month for 3 cycles)and progestogens (Tablet Mifepristone 25 mcg once daily at bedtime for 3 months) but her symptoms persisted even after medical management.

She was evaluated and was diagnosed as a case of fibroid uterus on ultrasonography and magnetic resonance imaging.**USG was suggestive of a** fibroid of 8.1x7cm in

anterior myometrium pushing the endometriumposteriorly. **MRI showed** bulky uterus measuring 11.7x 11.6x 9.9 cm. A well defined altered signal intensity lesion was noted in anterior wall of body of uterus in submucosal region which appears iso intense on T1 and hypo intense on T2 WI measuring 8.1x 10.9x 9.2 displacing endometrium posteriorly. Endometrial thickness was 3.4mm.

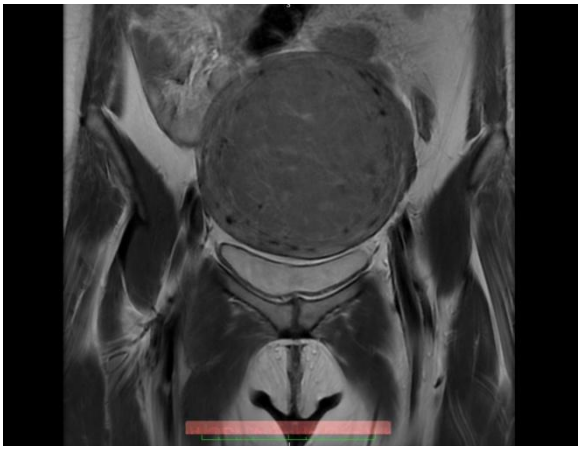

Figure 1: MRI picture of fibroid uterus

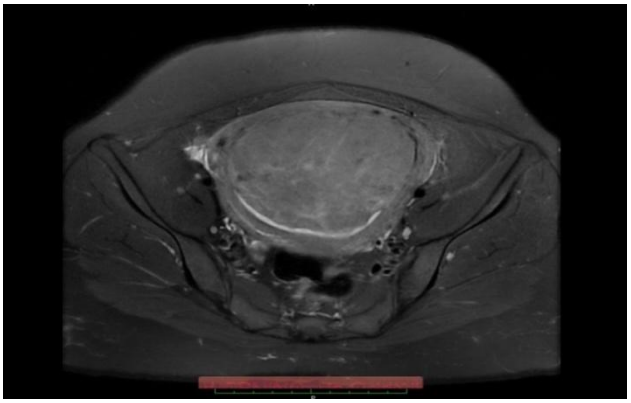

Figure 2: MRI picture of fibroid uterus

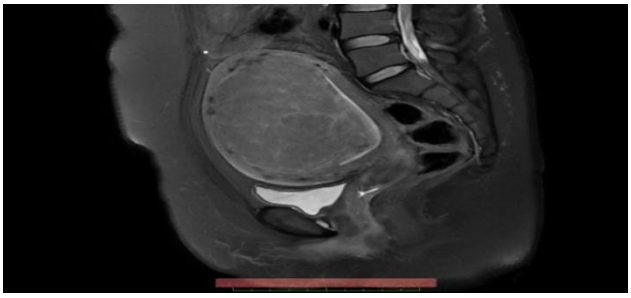

Figure 3: MRI picture of fibroid uterus (lateral view)

With provisional diagnosis of fibroid uterusand in view of failed medical management, with informed consent of the patient, surgical approach with open myomectomy (fig 4) was done under spinal anaesthesia. Intra op findings: uterus was enlarged upto 18 week size with anteriorly located leiomyoma. (Fig 5, 6)

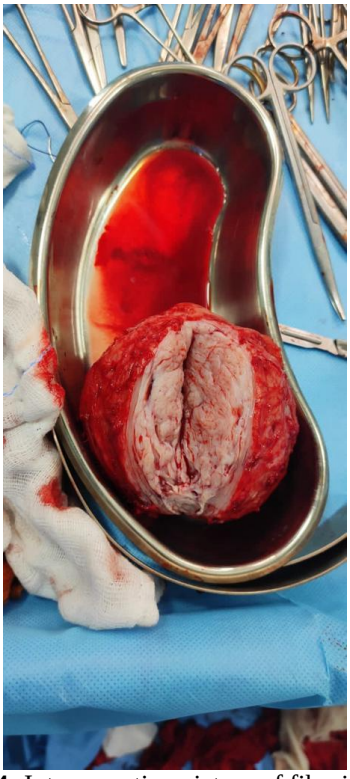

Figure 4: Intraoperative picture of fibroid uterus

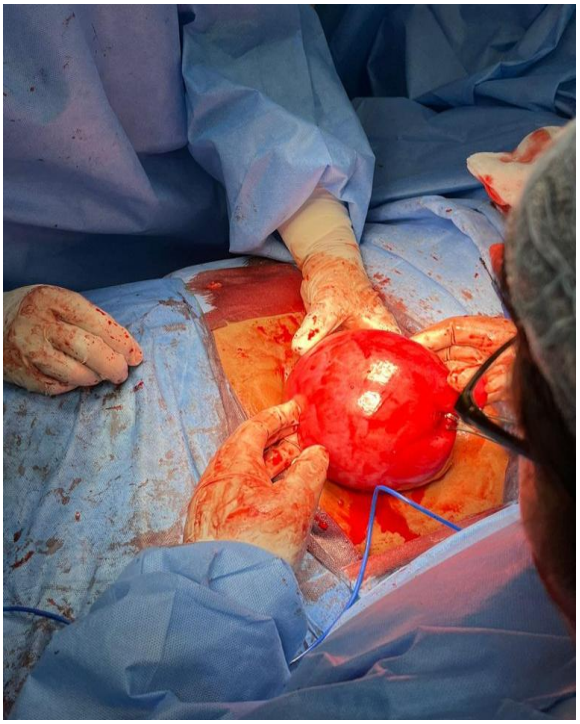

Figure 5: Intraoperative picture of myomectomy

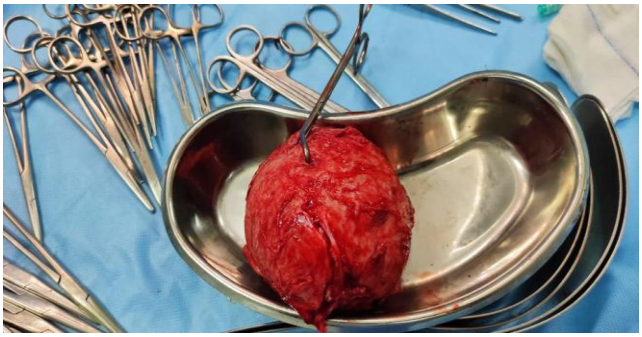

Figure 6: intraoperative picture of fibroid uterus

Cut section of uterus showed a single globular encapsulated soft tissue mass of submucosal fibroid measuring 14x9x8cms. (Fig 7, 8)

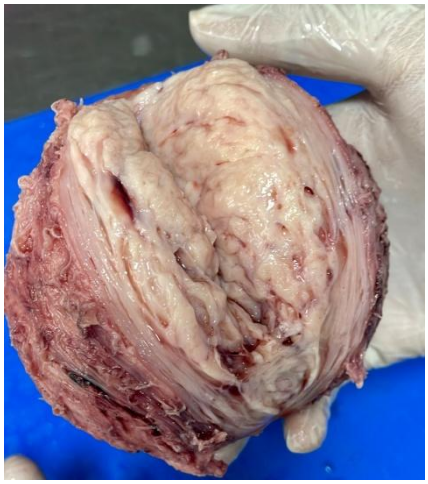

Figure 7: Gross image of Leiomyoma

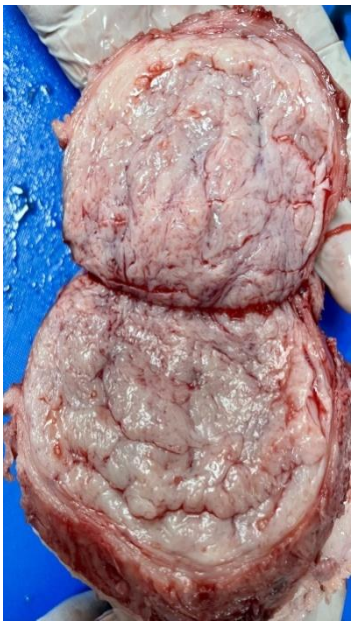

Figure 8: Gross specimen of fibroid uterus(cut section)

Sample was sent for Histopathological examination.

Histopathology reported it as a mitotically active and cellular leiomyoma. (Fig 9, 10)

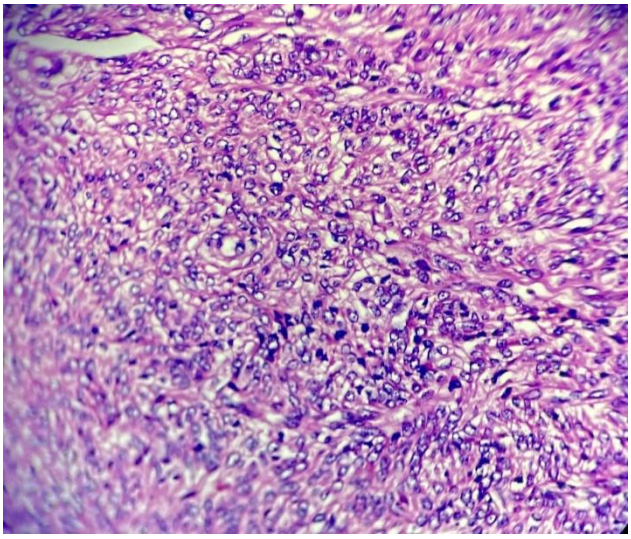

Figure 9: Histopathological appearance of leiomyoma (high power field)

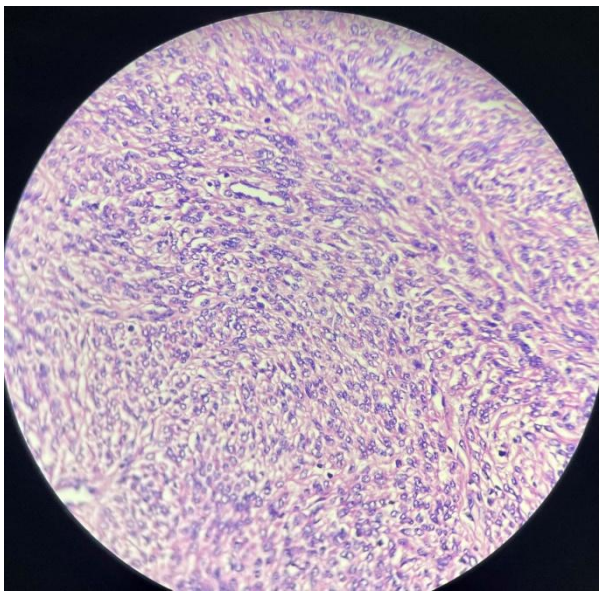

Figure 9: Histopathology pictures of leiomyoma

Histopathology revealed spindle cell neoplasm arranged in interlacing fascicles and bundles of monotonous cells showing eosinophilic cytoplasm and cigar shaped nuclei in cellular stroma with numerousmitosis and no atypical mitosis. Thick walled blood vessels with no individual cell necrosis were seen. Margins of the tumour were well defined with strips of myometrium and condensed fibrous tissue.Endometrial glands were in secretory phase with edematous stroma and brisk capillary proliferation.

These histological features were consistent with Cellular Leiomyoma (Mitotically active leiomyoma).

The patient was followed up and at present she is 6 months postoperative and had no signs ofrecurrence.

3. Discussion

The atypical leiomyoma or the variants of leiomyoma can be histologically classified as Cellular leiomyoma, Leiomyoma with bizarre nuclei, Mitotically active leiomyoma,

Hydropicleiomyoma, Apoplectic leiomyoma, Lipoleiomyoma, epitheloidleiomyoma, Myxoidleiomyoma, Dissecting leiomyoma, diffuseleiomyomatosis, Intravenous leiomyomatosis and Metastasizing leiomyoma.

All these variants of leiomyomashould be considered with great importance as they closely resemble the malignant variant, Leiomyosarcoma which is an aggressive tumor. These variants may also act as a precursor lesion of leiomyosarcoma.

Cellular leiomyoma is defined by marked increase in cellularity when compared to the surrounding myometrium with no nuclear atypia, necrosis or excessive mitosis. It also includes thick walled blood vessels and cleft like spaces.

Mitotocallyactive leiomyoma includes 5-15 mitotic figures per 10 high power field. They typically lack cytological atypia and tumor cell necrosis. It is mostly common in reproductive age group. It also shows hypercellularity and focal bizarre nuclei.

They are distinguished from leiomyosarcoma by absence of tumor cell necrosis and mitotic count <10/10 high power field.

The advancement of minimally invasive procedures and uterine conserving surgeries require profound understanding of the clinical characteristics of leiomyoma variants. These variants are acknowledged as benign pelvic masses but the previous reports suggest that leiomyoma variants have a malignant behavior.

An enhanced understanding of the clinical behaviour of these tumors guides us in choosing accurate surgical treatment modality and follow up.

4. Conclusion

Diagnosis of these leiomyoma variants are mostly made by histopathology. These leiomyoma variants have a higher rate of single mass and a possibility of malignancy causing leiomyosarcoma in later life. These variants are at higher risk of malignant recurrence even after surgical management. Thus long term follow up is essential following hysterectomies and myomectomies in those desiring fertility in order to diagnose these rare tumors ahead of time.

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