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A Histopathological Study of Leiomyoma with Secondary Changes

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Abstract

Background – Uterine tumors are the most common and the leading cause of hysterectomy in women.

Methods- Hospital based cross sectional study conducte on specimen from Patients of Abnormal Uterine Bleeding.

Results- 165 (82.5%) patients were no change, 30(15.00%) patients were show hyalinization, 2(1.0%) patients were show calcification, 1(0.50%) patients were show fatty change, 1(0.50%) patients were show myxoid change and inflammatory change.

Conclusion- Leiomyoma is the most common benign tumor of the pelvis. They are commonly seen in perimenopausal females and present with menorrhagia, pain in abdomen or dysmenorrhea.

Keywords- Leiomyoma, dysmenorrhea, inflammatory change.

Introduction

Uterine leiomyomas are benign smooth muscle tumors, found in one in three women over the age of 30 years. Uterine tumors are the most common and the leading cause of hysterectomy in women. Regarding the time of diagnosis they are more common in the fourth and fifth decade of life Leiomyoma of uterus also called as fibromyoma or fibroid uterus is a benign tumor of uterus, essentially composed of smooth muscle tissue and a variable amount of fibrous connective tissue. It is the most common tumor of uterus and is found in 20% of women in reproductive age group[1]. These are typically found during the middle and late reproductive years. Fibroids have not been described in prepubertal girls but they are occasionally noted in adolescents. Myomas are clinically apparent in approximately 25% of reproductive-age women and noted on pathologic examination of approximately 80% surgically excised uteri. At least 20% of all women and 40% of women older than 40 years have uterine leiomyoma.

The increased incidence of uterine leiomyomas and the absence of onset signs and symptoms, in most cases are important issues in the attempts of early detection disease.

Given the development of uterine leiomyoma it is convenient to divide the factors that may be related to tumorigenesis in four categories: predisposing risk factors, initiators, promoters, and effectors. Risk factors are characteristics associated with a disease generally identified by epidemiological studies. Knowledge of these predisposing factors may provide clues to the etiology of these tumors as well as preventive measures.

Materials & Methods

Study design: Hospital based cross sectional study

Study duration- period of one year.

Study population: Patients of Abnormal Uterine Bleeding

Study Unit: Tissue specimens obtained from study population

Sampling method: Convenience non-probability sampling.

Methods of collection of data

Clinical data will be obtained from hospital record and requisition submitted along with tissue specimen received in the department. Tissue bits were routinely processed. Three to five micron thick sections will be made from paraffin blocks and was stained with H&E stain. Special stains shall be done whenever necessary. Specimen obtained from eligible study population will be examined grossly as well as microscopically to assess type of fibroid, morphological patterns and variations and +/- of secondary changes.

Observations

Table 1: Age distribution of study patients (n=200)

Age group (Yrs)	No. of patients	Percentage
0-15 Yrs	0	00
16-30 Yrs	5	2.50
31-45 Yrs	88	44.00
46-60 Yrs	96	48.00
More than 60 Yrs	11	5.50
Total	1003	100.00

Above table shows that out of 200 patients, maximum (48.00%) patients were from 46-60 Yrs, 44.00% patients were from 31-45 Yrs age group and minimum patients (5.50%) was in more than 60 Yrs age group.

Table 2: Parity wise distribution of study patients (n=200)

Parity	No. of patients	Percentage
Nulliparous	8	4.00
Multiparous	192	96.00
Total	200	100.00

Above table shows that 4.0% patients were nulliparous and 96.0% patients were multiparous.

Table 3: Histopathological within leiomyomas.

Secondary Change	No. of patients	Percentage
Hyalinization	30	15.00
Calcification	2	1.00
Fatty change	1	0.50
Myxoid change	1	0.50
Inflammatory change	1	0.50
Absent	165	82.5
Total	200	100.00

As above table show that 165 (82.5%) patients were no change, 30(15.00%) patients were show hyalinization, 2(1.0%) patients were show calcification, 1(0.50%) patients were show fatty change, 1(0.50%) patients were show myxoid change and inflammatory change.

Discussion

Uterine leiomyomas are benign neoplasms commonly encountered in gynaecological practice. Estrogen and progesterone are recognized as promoters of tumor growth, and the potential role of environmental estrogens has only recently been explored. Growth factors with mitogenic activity, such as transforming growth factor-β3, basic fibroblast growth factor, epidermal growth factor, and insulin-like growth factor-I, are found to be elevated in leiomyomas and may be the effectors of estrogen and progesterone promotion. Nonrandom cytogenetic abnormalities have been found in about 40% of tumors examined. One of the most common of these is a

translocation between chromosomes12 and 14, specifically t(12;14) (q14-q15;q23- q24), which is present in about 20% of karyotypically abnormal leiomyomas. Another frequently encountered karyotypic abnormality in fibroids is a deletion of chromosome 7, del(7)(q22q32), which is present in about 17% of karyotypically abnormal leiomyomas. A third cytogenetic subgroup consists of aberrations of 6p21, including deletions, inversions, translocations, and insertions. Trisomy 12 has been reported in as many as 12% of karyotypically abnormal leiomyomas[2].

In our study multiparous women were found to have leiomyomas more frequently than nulliparous analogous to a study by Begum and Khan,[3]in contrast to a study by Derek[4] who observed fibroids are more common in nulliparous or infertile patients since he included more of asymptomatic infertile patients with fibroids.

In the present study, secondary degenerative changes were noted grossly in 17.5% of cases. The degenerative changes in leiomyomas occur due to inadequate blood supply which may result in hyalinization, most common followed by cystic, hemorrhage, hydropic, or calcification, and very rarely malignant degeneration or LMS. The type of secondary change depends on the rapidity and degree of vascular insufficiency. [3] Epitheloid variants of leimyoma 2 cases(0.19%) was reported in our study. In the present study also, hyalinization was the most common secondary change similar to the study by Begum and Khan,[3] and Persaud and Arjoon.[5] Red degeneration occurs predominantly during pregnancy,[6] one of our cases were diagnosed during pregnancy .In addition, these secondary changes usually occur in old mature lesions and hence careful conscientious histopathological sampling should be carried out.[6]

Conclusion

Leiomyoma is the most common benign tumor of the pelvis. They are commonly seen in perimenopausal females and present with menorrhagia, pain in abdomen or dysmenorrhea.

Bibliography

1. Pratap Kumar, Narenda Malhotra. Jeffcoate's Principles of gynecology. 7th ed. Jaypee publishing; 2008.212-19.
2. Flake GP, Anderson J, Dixon D. Etiology and pathogenesis of uterine leiomyomas: a review. Environ Health Perspect 2003;111:1037-54.
3. Begum S, Khan S. Audit of leiomyoma uterus at Khyber teaching hospital Peshawar. J Ayub Med Coll Abbottabad. 2004;16:46–9.
4. Derek LJ. Fundamentals of Obstetrics and Gynaecology. 5th ed. London: Mosby; 1990. Benign enlargement of uterus; p. 193.
5. Persaud V, Arjoon PD. Uterine leiomyoma. Incidence of degenerative change and a correlation of associated symptoms. Obstet Gynecol. 1970;35:432–6.
6. Prayson RA, Hart WR. Pathologic considerations of uterine smooth muscles tumors. Clin North Am. 1995;22:637–57.