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A clinicopathological relation of the uterine leiomyoma: A retrospective analysis

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Abstract
Introduction: Leiomyomas also known as fibromyomas, fibroids or myomas are the commonly encountered benign uterine neoplasms in women of reproductive age group. They accounts for 5-20% of all women in reproductive age group. This study is an attempt to analyze the clinico pathological spectrum in cases of Leiomyoma of the uterus.
Materials & Method: A clinical study of 100 cases of fibroid uterus was made in the Hospital attached to Medical College. The cases are selected by random allocation. On admission, a detailed history, clinical examination and investigations were made. Examination under general anaesthesia was not made in our studies. Diagnosis was confirmed by scanning in all cases. Diagnostic curettage was done to rule out any endometrial pathology especially in elderly patients.
Results: The most common benin tumor of the pelvins is Leiomyoma. Histopathology report showed proliferative endometrial in 66 cases, secretary changes were noted in 12 patients, endometrial hyperplasia was seen in 5 cases, cystic glandular hypertrophy was seen in 3 cases, atrophic endometrial occurred in 8 patients. The results were inconclusive in 6 patients.
Discussion & Conclusion: Leiomyoma is the most common benign tumor of the pelvis. The trends in the age incidence have remained the same, the occurrence of fibroid is rare before 20 years of age, and they cease to grow after menopause, thereby commonly affecting women of child bearing age, most common in third decade. Presence of proliferative endometrium, adenomyosis and cystic ovaries are all indicative of hyperestrogenic state associated with development of fibroids.

Keywords: Leiomyoma, histopathology, hysterectomy, endometrial changes

Introduction

Leiomyomas also known as fibromyomas, fibroids or myomas are the commonly encountered benign uterine neoplasms in women of reproductive age group. They accounts for 5-20% of all women in reproductive age group (Crum C P, 2004) [1]. They need hormonal milieu for their growth and maintenance as evidenced by the molecular studies that leiomyomas which exhibit more estrogen receptors than the normal myometrium (Gull, 2001) [2]. The unopposed estrogenic stimulation manifests commonly as endometrial proliferative phase or hyperplasia (Witherspoon T J, 1993) [3, 4].

Leiomyomas are the most common uterine neoplasms. The clinical presentation of leiomyomas depends on their size and location. They cause many signs and symptoms, the most common of which are pain, a sensation of pressure, and abnormal uterine bleeding. Leiomyomas need hormonal milieu for their growth and maintenance as evidenced by the molecular studies that they exhibit more estrogen receptors than normal myometrium [5].

Despite being the most common tumor, the etiology still remains a speculation. Genetic and hormonal factors have been implicated. Although estrogen, growth hormone, and possibly human placental lactogen have been implicated, the role of estrogen in their growth is significant. Studies using glucose-6-phosphate dehydrogenase isoenzyme suggest that each fibroid apparently arises from a single cell within the myometrium [6].

Most cases of leiomyoma are asymptomatic and need no treatment. Among symptomatic cases, menstrual disturbances are the most common symptom and leads to anaemia in majority of patients. Other common symptoms are abdominopelvic pain and pressure symptoms. Pressure symptoms are urinary frequency and urgency which may develop due to large size fibroid or sudden increase in size of the fibroid [7, 8].

Heavy menstrual bleeding is the most common clinical symptom seen in intramural leiomyoma since it interferes with myometrial contraction. This study is an attempt to analyze the clinico pathological spectrum in cases of Leiomyoma of the uterus.

Materials & Method

A clinical study of 100 cases of fibroid uterus was made in the Hospital attached to Medical College and Research Institute. The cases are selected by random allocation. On admission, a detailed history, clinical examination and investigations were made.

Examination under general anaesthesia was not made in our studies. Diagnosis was confirmed by scanning in all cases. Diagnostic curettage was done to rule out any endometrial pathology especially in elderly patients and to know the hormonal status in infertile patients. In Patients with infertility, semen analysis of husband and tubal testing were made before undertaking conservative surgery.

At laparotomy: Size of uterus, number and situation of fibroids, condition of tubes and ovaries were noted. In cases posted for myomectomy, tubal patency was tested utilising methylene blue. The ovaries were conserved in cases of hysterectomies unless associated with pathology and in elderly patients. The removed specimen was cut anteriorly in the midline and near the cornu to inspect the cavity and seedling fibroids. The specimen was sent for histopathological examination of endometrial, myometrium.

Microscopic examination was done:

i. To confirm the lesions.
ii. For degenerative changes.
iii. Associated endometrial pathology.
iv. Associated with adenomyosis and
v. For changes in the ovaries, tubes and cervix.

Results

The most common benin tumor of the pelvins is Leiomyoma. The maximum diagnosis and patients admission in the medical college and associated hospital was due to leiomyoma. It also accounts for the most common indications for hysterectomy. A total of 100 cases were selected in the study.

From the data collected after completion of the study it was found that Leiomyomas are most commonly seen in the women in the women of child bearin age that mostly occur in the 3rd and 4th decade of life. The mean age of the patients included in the study was around 41 years. The youngest women in the study were found to be 22 year and oldest patients was around 60 years. Though Leiomyoma is a disease of low parity, in our study we have noted it to be common in multiparous women.

In around 20 cases the symptom of dysmenorrhea was recorded. In submucous and intramural fibroids patients had symptoms of spasmodic dysmenorrhea. As the reason and presence of pathology in pelvic due to increase in vascularity in the pelvic area resulted in congestive dysmenorrhea. In 12 patients the white discharge was seen, it was seen in cases of prolapsed and fibroid polyp. In 33 patients the complain of pain in abdomen was recorded. In maximum cases the pain was due to cystic ovaries and in other cases the pain was due to endometriosis, urinary tract infection and cholelithiasis. In 13 patients there was complain of presence of mass. In 15 patients there were problem of urinary tract, which is associated with cervical fibroid.

In 15 cases the primary infertility was observed, the reason for infertility was not known. None of the patients had any discomfort of bowel. In 5 cases the symptoms like vomiting, post coital bleedin, abdominal discomfort and fever was recorded. In total of 40 cases there was presence of anemia. All the patients were hospitalized, after detailed examination and investigations, the patients were treated for anaemia and other medical disorders. Patients underwent surgery. The type of surgery was chosen depending on the age of the patient, associated and pathology

The size of the fibroid uterus differs from few centimetres to 20 weeks of ravid uterus. In about 68 cases the size of 16 weeks gravid uterus were seen, in 23 cases there were of the size between 16-20 weeks, and huge fibroids of >20 weeks were encountered in 9cases of the study.

Type of fibroid

All the leiomyomata were corporeal, no extra uterine fibroid were encountered. Among the uterine about 93.9% were in the body & 6.1% were cervical, intramural fibroid were the commonest variety comprising about 60.6% of the cases, 9.1% submucous, 5.1% were broad ligament fibroids, all were pseudo broad ligament fibroids 15.2% of the patients had multiple fibroid.

Type of endometrium

Histopathology report showed proliferative endometrial in 66 cases, secretary changes were noted in 12 patients, endometrial hyperplasia was seen in 5 cases, cystic glandular hypertrophy was seen in 3 cases, atrophic endometrial occurred in 8 patients. The results were inconclusive in 6 patients.

Table 1: Different symptoms seen in the present study

Different symptoms	No. of cases
Dysmenorrhea	10
Mass in abdomen	6
Urinary symptoms	8
Asymptomatic	1
Menstrual distribution	38
White discharge	6
Abdominal pain	16
Vaginal mass	1
Bowel disturbances	0
Infertility	8
Others	6
Total	100

Table 2: Various incidences of various types of Leiomyomas

Type of fibroid	No. of cases
Intramural	60
Broad ligament	4
Multiple	16
Subserous	4
Submucous	8
Cervical	8

Table 3: Different histopathological pattern of endometrium

Histopathology pattern	No. of cases
Secretory	12
Glandular hyperplasia	3
Simple hyperplasia	5
Proliferative	66
Atrophic	8
unknown	6

Discussion

The major gynaecological surgery done throughout the world is hysterectomy. Charles Clay was the first to perform subtotal and

total hysterectomy in Manchester, England in 1843 and 1929 respectively. It is a successful procedure done in terms of symptom relief, patient satisfaction and definitive cure in much disease [9]. Benign conditions like leiomyoma, dysfunction uterine bleeding, adenomyosis, pelvis inflammatory disease, endometriosis, pelvic organ prolapse which account for major hysterectomies and rest for malignancy. Of these benign lesions, leiomyoma followed by adenomyosis are the commonest indication for hysterectomy [10, 11].

Despite being the most common tumor, the etiology still remains a speculation. Genetic and hormonal factors have been implicated. Although estrogen, growth hormone, and possibly human placental lactogen have been implicated, the role of estrogen in their growth is significant. Studies using glucose-6-phosphate dehydrogenase isoenzyme suggest that each fibroid apparently arises from a single cell within the myometrium [12].

The incidence of leiomyoma is highest in the 3rd decade, this is similar to the incidence quoted by other investigators, like Usha *et al*. 1992, indicating that Leiomyoma is a disease seen in women of child bearing age, they are rarely found before puberty, and cease to grow after menopause. About 60% were intramural fibroids, which is the most common variety. Similar results were obtain by other authors like Usha *et al*. (77%). Chhabra *et al*. (47%) and Shaw (73%). About 15% of the cases had multiple fibroids in our series. Though the incidence of cervical fibroid has been coated as very low, 4% (Shaw), 0.6% (Tiltman) [13], the incidence our study is comparatively high 6%.

The histological pattern of endometrium observed was proliferative type in 66 cases, these results are comparable to that quoted by other authors like, Madhu Udawat (68%) [14], Chhabra *et al*. (40%). This indicates the hyper estrogenic states associated with fibroids, endometrial was secretory in 12% of the cases.

Conclusion

Leiomyoma is the most common benign tumor of the pelvis. The trends in the age incidence have remained the same, the occurrence of fibroid is rare before 20 years of age, and they cease to grow after menopause, thereby commonly affecting women of child bearing age, most common in third decade. Though fibroid is a disease of low parity, it was most commonly seen in multipara, a significantly long period of interval following last child birth predisposed to the development of the fibroids.

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