

A Prospective Study of Uterine Myomas in CKM Hospital Warangal

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Abstract

Aims and Objectives: The objectives of this study were to study 100 cases of fibroid uterus admitted to CKM Hospital, Warangal attached to Kakatiya Medical College, Warangal, with respect to clinical spectrum, pathological correlation, with type of fibroid endometrial and ovarian pathology, associated conditions (medical and surgical comorbidities).

Materials and Methods: A clinical study of 100 cases of fibroid uterus was made in CKM Hospital, Warangal attached to Kakatiya Medical College, Warangal. The cases are selected by random allocation. On admission, a detailed history, clinical examination, and investigations were made.

Results: Leiomyoma is the most common benign tumor of the uterus and commonly found in the premenopausal women, most commonly in the fourth decade about 46%. The most common mode of presentation is menstrual disturbances 65%, among which menorrhagia was seen in 83.4% of the cases. Intramural fibroids are the most common variety, accounting to 79%. The endometrial pattern was proliferative in 49%. Cystic ovaries were seen in 6% of the patients adenomyosis in 8% indicating hyperestrogenism.

Conclusion: Fibromyoma (Leiomyoma) most common benign tumor of the female genital tract. Commonly affecting premenopausal women, most common in the fourth decade. Most commonly seen in multipara. Most common mode of presentation is menstrual disturbances. Intramural is the most common variety. The proliferative and hyperplastic endometrium was commonly reported. The presence of proliferative endometrium, adenomyosis, and cystic ovaries all is indicative of hyperestrogenic state associated with the development of fibroids.

Key words: Leiomyoma, Benign, Menorrhagia

INTRODUCTION

Leiomyoma of uterus forms the most common type of benign tumor of uterus, and also most common pelvic tumor in women.^[1] It occurs once in every four or five women of reproductive age. Unfortunately, symptomatology continues to be variable. It is believed that symptomatology depends on number, size, and location of tumor^[2] although most leiomyomas are believed to be asymptomatic and progress slowly.

Due to their wide spectrum of clinical symptoms such as menstrual irregularities, pelvic pain, and infertility, they

represent tremendous public health burden and economic costs to the society. They assume importance, particularly in our country as they are an important cause for anemia. Hence, strategies are needed to limit the growth and to treat non-surgically.

Surgery has for long been the main mode of therapy for the myomas. For women who have completed childbearing, hysterectomy forms an attractive option as it eliminates both symptoms and chances of recurrence.

For women who wish to retain, the uterus for future pregnancies or other menstrual function myomectomy is known.

The recent trend has been toward non-surgical approaches such as GnRH hormone analogs/agonists. RU 486,^[3] LNG-IUS, SERM like ulipristal asoprisnil, HIFU (high-intensity focused ultrasound) selective uterine artery embolization^[4]

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laparoscopic cryoablation,^[5-7] radiofrequency thermal ablation,^[6] and MRGUs.^[8,9]

This study is an attempt to analyze the clinicopathological spectrum in cases of leiomyoma of the uterus at CKM Hospital, Warangal and to know regarding the pattern of presentation, mode of treatment and associated conditions in this region.

Aims and Objectives

The objectives of this study were to study 100 cases of fibroid uterus admitted to Government Maternity Hospital Hanamkonda attached to Kakatiya Medical College, Warangal, with respect to:

1. Clinical spectrum.
2. Pathological correlation, with the type of fibroid endometrial and ovarian changes.
3. Associated conditions (medical and surgical comorbidities).

MATERIALS AND METHODS

A clinical study of 100 cases of fibroid uterus was made in CKM Hospital, Hanamkonda attached to Kakatiya Medical College, Warangal.

The cases are selected by random allocation. On admission, a detailed history, clinical examination and investigations were made. The following points were noted in the history.

1. Age and socioeconomic status of the patient.
2. History of presenting complaints was taken in detail: Noting down the following:
 - a. Menstrual disorder (detailed menstrual history is taken) menorrhagia/
 - b. Metrorrhagia/polymenorrhea/dysmenorrhea/postmenopausal bleeding.
 - c. White discharge per vagina – amount, duration, and whether blood stained.
 - d. Bladder and bowel symptoms such as frequency, retention, dysuria and dyspepsia, and indigestion.
 - e. Mass per abdomen – when she noticed the mass, rate of growth, presence of pain, and type of pain.
3. Menstrual history: The following points were noted:
 - (i) Age of menarche.
 - (ii) Past menstrual cycle – regularity of periods, duration of cycles menstrual flow-scanty, moderate or excessive, associated with pain or not, presence of any intermenstrual bleeding.
 - (iii) Last menstrual period.
 - (iv) Age of menopause
4. Obstetric history: The following points were considered.

- a. Duration of marriage
- b. Abortions – if any, and gestational age
- c. Deliveries – preterm/term
- d. Others: Malpresentation

Incoordinate uterine action, plan.

- (i) Mode of delivery
- (ii) Third stage complications
- (iii) Puerperium – fever and subinvolution of uterus.

5. Past history of diabetes, hypertension tuberculosis epilepsy bleeding disorders thyroid disorders and infertility were noted.
6. Past surgical history of myomectomy.
7. Family history of myomas in the mother aunt and siblings.

Clinical Examination

1. Under general examination: Importance was given to following points
 - (a) Evidence of anemia
 - (b) Presence of edema of feet
 - (c) Vitals and examination of cardia and respiratory system
2. Local examination
 - (i) Per abdomen:
 - (a) Inspection: Presence of mass, dilated veins over the surface of abdomen.
 - (b) Palpation: Whether the mass arises from the pelvis, that is, lower border not made out, tenderness, size, surface, boundaries, consistency of mass, and mobility.
 - (c) Percussion: For the presence of ascites.
 - (d) Auscultation: For uterine soufflé.
 - (ii) Per speculum examination
 - (a) Condition of vagina.
 - (b) Condition of cervix – for the presence of erosions, descent of cervix, for any growth.
 - (c) Any discharge if present, presence of excoriations
 - (d) Presence of cystocele, rectocele or enterocele
 - (iii) Bimanual examination:
 - (a) Direction of cervix and its consistency.
 - (b) Size, position, and consistency of uterus.
 - (c) Mobility of uterus and transmission of the movement of the cervix to the growth and vice versa.
 - (d) Mass felt separate from the uterus.
 - (e) Tenderness in the fornix.
 - (iv) Sounding of the uterus was done.

The diagnosis of fibroid uterus was made by clinical examination in the majority of our patients, considering

the menstrual history, firm mass in the hypogastric region, transmitting movement from the cervix to mass, and vice versa.

Examination under general anesthesia was not made in our studies. The 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 was made before undertaking conservative surgery.

Investigations

The following investigations were made before taking the patient for surgery:

Blood – Complete blood picture

- Grouping and Rh typing
- ESR
- FBS and PLBS
- Blood urea and serum creatinine
- Urine – albumin, sugar and microscopy, culture, and sensitivity.
- Stool – Ova and cysts
- Pap smear and endometrial sampling.

Intravenous urography and hysterosalpingography in selected cases.

Scanning

At laparotomy: Size of uterus, number, and situation of fibroids, condition of tubes, and ovaries were noted.

In cases posted for myomectomy, chromotubation was made utilizing methylene blue.

The ovaries were conserved in cases of hysterectomies unless associated with pathology and in elderly patients.

The hysterectomy 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 endometrium and myometrium.

Microscopic examination done

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

RESULTS

Leiomyoma is the most common benign tumor of the pelvis. It accounts to maximum gynecology admissions in

our institute and forms the most common indication for hysterectomy. A hundred cases were selected randomly for the study.

From Table 1, it is evident that leiomyomas are occurring with almost equal incidence in reproductive and the premenopausal age group, most commonly occurring in the fourth decade. The mean age being 42 years. The youngest patient in our study was 26 years old, and the oldest was 58 years old. Although leiomyoma is a disease of low parity, in our study, we have noted it to be more common in multiparous women, as illustrated in Table 2.

Which show that, there is a long period of secondary infertility before the symptoms could develop, that is, the interval between last delivery and development of symptoms in most of the cases is significantly long, in which 46% of the cases was 16–20 years back, and in 25% of the cases, it was more than 20 years back. There are just 2% cases with last childbirth <5 years.

Mean age of the sterilization – 23.48+
4.84 Minimum – 3 years
Maximum – 28 years

Early age at marriage and early sterilization also play a role [Table 3]. The mean age at which the patients were sterilized was 23 years. In 33% of the patients, the duration between sterilization and development of symptoms was 16–20 years.

Incidence of various symptoms in combination in the present study dysmenorrhea was seen in 14% of the cases. Spasmodic dysmenorrhea occurs in intramural and submucous fibroid. Congestive dysmenorrhea results from increased vascularity in the pelvis, due to associated pelvic pathology.

White discharge per vaginum was seen in 6% of the cases, which was most commonly associated with chronic

Table 1: Incidence of leiomyoma in relation to age

Age (in years)	Percentage
21–30	7
31–40	42
41–50	46
50+	5

Table 2: Interval between last childbirth and development of symptoms

Last childbirth in years	Percent patients
<5	2
6–10	7
11–15	20
16–20	45
>20	24

Table 3: Interval between sterilization and development of symptoms

Period since sterilization in years	Percent patients
<5	2
6–10	3
11–15	15
16–20	33
>20	17
Not tubectomized	29

Table 4: Distribution of menstrual symptoms

Distribution of menstrual symptoms	Percentage
HMB	83.4
Metrorrhagia	7.81
Polymenorrhagia	6.25
Polymenorrhea	1
PMB	1.6

Table 5: Size of fibroid uterus in studied cases

Size of the uterus	Percentage
<16 weeks	76
16–20 weeks	22
>20 weeks	2

cervicitis, also seen in cases of fibroid polyp and prolapse. Pain abdomen was seen in 41% of the cases, in most of the cases, the pain was associated with cystic ovaries, in others, the pain was due to endometriosis, PID, urinary tract infection, or cholelithiasis. The presence of a mass was complained in 8% of the cases. Urinary problems were noticed in 2% of the cases, which were typically associated with cervical fibroid/broad ligament fibroid.

None of the patients presented with infertility as the chief complaint. About 1% of the patients presented with bowel discomfort. Other symptoms such as vomiting, fever, postcoital bleeding, swelling of lower limbs, mass per vaginum, and abdominal discomfort were observed in 3% of the cases.

Anemia was seen in 50% of the cases, of which 40% were severely anemic, 30% were moderately anemic, and another 30% had mild anemia.

All the patients were hospitalized, after detailed examination and investigations, the patients were treated for anemia and other medical disorders.

Patients underwent surgery or were treated medically with progesterone therapy for 6 months or levonorgestrel intrauterine contraceptive device. The type of surgery was chosen depending on the age of the patient, parity, associated adnexal, and pelvic pathology.

Table 6: Incidence of various types of leiomyomas

Type of Thyroid	Percentage
Subserous	11
Intramural	79
Submucous	15
Broad ligament	2
Cervical	7

Table 7: Histopathological abnormalities in combination associated with myoma

Associated pelvic	Percentage
Cystic ovaries	6
Chronic cervicitis	85
Adenomyosis	8
Pelvic inflammatory	4
Fibroid polyp	5
LSIL	1
Granulosa cell	1

In the present study, it is noted that most of the patients presented with menstrual disturbances, among which menorrhagia was comparatively more, though statistically not significant Table 4. Menstrual disturbances are the most common modality of presentation (65%), among which heavy menstrual bleeding (83.4%) was seen most commonly, typically associated with intramural and submucous fibroids, in cases with a subserous fibroid, menorrhagia was due to associated endometrial hyperplasia. Metrorrhagia was found in 7.81% of the cases and polymenorrhagia in 6.25%. Only one case of postmenopausal bleeding was found.

Incidence of Various Management Done

About 43% patients underwent total abdominal hysterectomy (TAH), 24% TAH with unilateral salpingo-oophorectomy, 11% underwent TAH with bilateral salpingo-oophorectomy, 1% underwent myomectomy, 2% underwent TAH with bilateral salpingectomy, 2% underwent TAH with unilateral salpingectomy, 6% cases resolved with medical management, 10% cases were inserted with levonorgestrel eluting IUS, and 1% cases underwent subtotal hysterectomy.

Myomectomy was performed in young and nulliparous women, to conserve the fertility, the results of myomectomy could not be evaluated as the study duration is short. Subtotal hysterectomy had to be done in a case due to dense adhesions between bladder and uterus. The size of the specimen was noted, following which the specimen was dissected in the center and at the cornual ends, to look for the situation, type, and number of fibroids.

In our series, it was noted that the size of the fibroid uterus varied from a few centimeters to 24 weeks of gravid uterus. It is seen that about 76% were of the size of 16 weeks

Table 8: Incidence of leiomyoma in relation to age

Age group in years	Present study	Maitri <i>et al.</i> (2015)	Baruah (1961)	Bhaskar Reddy (1963)	Usha <i>et al.</i> (1992) %
21–30	7.0	10.0	3.0	21.5	10.53
31–40	42.0	55.0	3.5	50	48.95
41–50	46.0	32.0	10	23	37.95
50+	5.0	3.0	4	-	3.09

gravid uterus, 22% were of the size between 16 and 20 weeks, and huge fibroids of >20 weeks were encountered in 2% of the patients.

All the leiomyomata were corporeal, no extrauterine fibroids were encountered. Among the uterine about 93.75% were in the body and 7% were cervical, intramural fibroid was the most common variety comprising about 79% of the cases, 15% submucous, 11% subserous, 2% were broad ligament fibroids, and all were pseudo broad ligament fibroids.

Incidence of Histopathological Pattern of Endometrium

Histopathological pattern of endometrium was studied. It showed proliferative endometrium in 49%, secretory changes were noted in 13%, endometrial hyperplasia was seen in 13% cases, and simple proliferative glandular hyperplasia was seen in 25%.

The associated pathology in the adnexa and other pelvic structures was studied, which showed cystic ovaries in 6% of the cases. A variety of cysts were noted such as simple serous cyst, follicular cyst, serous/papillary cystadenoma, dermoid cyst, and corpus luteal cyst. Adenomyosis was found in 8% of the cases, chronic cervicitis was seen in 85% of the cases and PID in 4% of the cases. Fibroid polyp was seen in 5% cases, 1% had a Granulosa cell tumor, and 1% had Low grade squamous intraepithelial neoplasia.

DISCUSSION

Incidence of leiomyoma is highest in the fourth decade, with not a significant difference between the incidence in the third decade. This is probably because the areas in and around CKM Hospital, Warangal, are rural to suburban and women do not seek health care until very late into the disease course. Similarly, the incidence of leiomyoma was highest among the multiparous group in most of the studies, as depicted in table below. Although the literature states that, leiomyoma is a disease of low parity. This is probably due to early age at marriage, and long gap between the last childbirth and development of symptoms.

The analysis of symptoms shows that the menstrual complaints were predominant among all the study groups with comparable results [Table 5]. Other complaints such as pain/abdomen and mass/abdomen were also found.

Different authors have quoted varying incidence of the size of fibroids, this depends on the stage at which the patients present.

About 79% were intramural fibroids, which is the most common variety [Table 6]. Similar results were obtained by other authors such as Maitri *et al.* (60.6%), Usha *et al.* (77%), Chhabra *et al.* (47%), and Shaw (73%). Although the incidence of cervical fibroid has been coated as very low, 4% (Shaw) and 0.6% (Tiltman), the incidence in our study is comparatively high 7%.

Incidence of Various Operations Performed

Compared to the statistics from the study conducted by Maitri *et al.*, it has been seen that the number of TAH with unilateral salpingo-oophorectomy has increased. Furthermore, the usage of LNG IUCD has risen and has proven to be both efficient and acceptable to the patients. Few cases have resolved with the usage of progesterone for 6 months [Table 7].

Incidence of Histopathological Pattern of Endometrium

The histological pattern of endometrium observed was proliferative type in 49% of the cases, these results are comparable to that quoted by other authors. The incidence of simple proliferative glandular hyperplasia was very high in our study which is contrary to the incidence quoted by the other studies. This indicates the hyperestrogenic states associated with fibroids, endometrium was secretory in 13% of the cases.

Histopathological Abnormality in Combination Associated with Myoma

The association with cystic ovaries and adenomyosis also indicates hyperestrogenism [Table 8].

Incidence of Various Degenerations in Studied Cases

The incidence of cystic and hyaline degeneration was 2% each which is similar to the other studies. Other degenerations were not found.

CONCLUSION

Fibromyoma (Leiomyoma) most common benign tumor of the female reproductive tract. 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. Although previous studies have

shown the incidence to be maximum in the reproductive age group, our study showed it to be occurring with almost equal incidence in the third and fourth decade. Although fibroid is a disease of low parity, it was most commonly seen in multipara, a significantly long period of infertility following last childbirth predispose to the development of fibroids. Most common mode of presentation is menstrual disturbances. Since most of the patients were referred by local doctors, the patients ascribed any symptoms to the presence of fibroid, retrospectively.

Intramural is the most common variety, followed by combination leading to multiple fibroids, then submucous, and subserous fibroids. The proliferative and cystic glandular hyperplastic endometrium were commonly reported. The presence of proliferative endometrium, adenomyosis, and cystic ovaries all is indicative of hyperestrogenic state associated with the development of fibroids. There is a need for greater education and awareness among the women of reproductive and premenopausal age group. Since most of the cases are referrals from peripheries, there is also a need for the local physicians and gynecologists to detect fibroid early in its course and start appropriate management. Most of the women have come to the tertiary center with severe anemia or the complications of fibroid uterus.

Early detection will help in immediate institution of medical management and uterus conserving procedures. This will reduce the hysterectomy rate which continues to be high. The women also need to be educated about medical management as the acceptance of uterus conserving procedures continues to be low. The effect of fibroid uterus on the quality of life, morbidity of surgery, and post-operative complications can be reduced by medical management.

In conclusion, the emerging drugs such as SERMs and SPRMs must be available throughout the tertiary centers as most of the patients are from low socioeconomic background and cannot afford the drugs. LNG IUS also continues to be out of reach for most of these women as it needs regular follow-up.

The concerned authorities must educate the women from rural background regarding the need for routine gynaecological visits starting from the third decade. All these measures will bring down the hysterectomy rate and ensure greater compliance with medical management.

Summary

- Leiomyoma is the most common benign tumor of the uterus.

- In our series commonly found in premenopausal women in the fourth decade, 46% cases. No cases were seen below 20 years.
- There is a long period of childlessness (infertility) between the last childbirth and appearance of symptoms, in 46% of cases. This interval was 16–20 years.
- The mean age at which the patients underwent sterilization is 23 years and the interval between sterilization and development of symptoms in 33% of patients was 16–20 years and 17% above 20 years.
- Most common mode of presentation is menstrual disturbances 65%, among which menorrhagia was seen in 83.4% of the cases.
- Intramural fibroids are the most common variety, accounting to 79%, followed by submucous in 15%, subserous in 11%, and cervical in 7%.
- Cystic and hyaline degeneration was noted in small numbers.
- Endometrial pattern was proliferative in 49%, secretory in 13%, hyperplasia was noted in 13%, simple proliferative glandular hyperplasia in 25%.
- Cystic ovaries were seen in 6% of the patients adenomyosis in 8%, PID 4%, and 1% each of LSIL and granulosa cell tumor.
- Chronic cervicitis in 85% of the cases.

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