

Original Research Article

# Clinical, Sonographical, Surgical, Histopathological study of fibroid

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## Abstract

**Background:** Uterine fibroids (also known as leiomyomas or myomas) are the commonest benign uterine tumors, but most cases are asymptomatic occurs one in every four or five women of reproductive age with an estimated incidence of 20%-40% in women during their reproductive years.

**Aim:** To study and evaluate clinical, sonological, surgical, histopathological presentation of fibroid uterus.

**Objective:** This study was an attempt to analyze clinical, sonological, and pathological spectrum in cases of leiomyoma of uterus at VGH and to know regarding the pattern of presentation, sonological identification, mode of treatment and pathological correlation with type of fibroid, myometrial, ovarian and cervical changes.

**Materials and methods:** This study included 100 women with fibroid uterus was made at VGH from June 2018 to June 2019 were selected by random collection. On admission detailed history, clinical examination and investigations were made.

**Results:** Leiomyoma was the most common benign tumor of the uterus and commonly affects the women of child bearing age, most commonly in the 3<sup>rd</sup> decade about 58%. Most common mode of presentation was menstrual disturbances about 80% of which menorrhagia most common. Intramural fibroids were most common variety 60%. Endometrial pattern was proliferative 68% of cases. Secondary changes such as hyaline, mucoid, cystic and fatty degeneration were also seen, most commonly in intramural leiomyoma.

**Conclusion:** Uterine leiomyoma are most common benign tumors, effecting mostly 3<sup>rd</sup> decade of women. Intramural is most common variety, menorrhagia is most common presentation. In our study clinical, sonological, Surgical, histopathological evaluation correlated well, so routine screening, early detection, increase in awareness by early reporting to hospital will reduce surgical morbidity and improves the quality of life socio-economically.

## Key words

Fibroid, Leiomyoma, Menorrhagia, Secondary changes.

## Introduction

Uterine fibroids (also known as leiomyomas or myomas) are the commonest benign uterine tumors, but most cases are asymptomatic [1] occurs one in every four or five women of reproductive age with an estimated incidence of 20%-40% in women during their reproductive years. These tumors develop in a high proportion of women by fifth decade, 45% [2]. They are monoclonal tumors of the uterine smooth muscle cells and consist of large amounts of extracellular matrix that contain collagen, fibronectin, and proteoglycan [1]. Even though their pathogenesis is not clearly known, there is considerable evidence that estrogens and progestogens proliferate tumor growth, as the fibroids rarely appear before menarche [3] and regress after menopause. They are classified by their location relative to the layers of the uterus (as subserous, intramural, or submucous) and can be single or multiple [2]. Myomas are clinically apparent in approximately 25% reproductive age women and noted on pathological examination of approximately 80% surgically excised uterus. At least 20% of all women older than 40 years have uterine leiomyoma [4].

## Materials and methods

This was a prospective hospital based observational study 100 women with fibroid uterus attending Outpatient Department in the Department of Obstetrics and Gynecology, Government Victoria Hospital, Visakhapatnam from June 2018 to June 2019 was selected by random collection on admission. All women who attended Gynecology OPD, detailed history and clinical examination were done. Histopathological examination was done and reports collected and evaluated.

Pre-operative assessment was done by taking detailed history regarding age, parity, previous menstrual patterns, reason for seeking medical care, and treatment taken prior to this visit. In all

patients, routine investigations like blood group and Rh typing, Hb%, RBS, Urine analysis, was done. Local and clinical, bi manual pelvic examination was done along with Ultrasound for morphology and associated conditions of the tumor. Patients were clinically observed from date of admission till discharge and follow-up. Post-operative assessment was done by comparing histology of operative specimens and clinical, ultrasonogram findings for accuracy of diagnosis and prevalence of fibroids, their type, and clinical presentation.

**Table - 1:** Distribution of cases based on age.

Age (years)	% (n=100)
20-25	1%
26-35	10%
36-45	64%
46-55	22%
>55	3%

**Table - 2:** Distribution based on duration of symptoms.

	Intramural	Submucosal	Subserosal
<6 months	28%	65%	35%
>6 months	82%	35%	65%

**Table - 3:** Distribution based on presentation of symptoms.

Symptoms	Percentage
Menorrhagia	85
Dysmenorrhea	75
White discharge	16
Pain abdomen	36
Mass per abdomen	13
Mass per vagina	2
Urinary symptoms	2
Bowel disturbances	0
Infertility	2

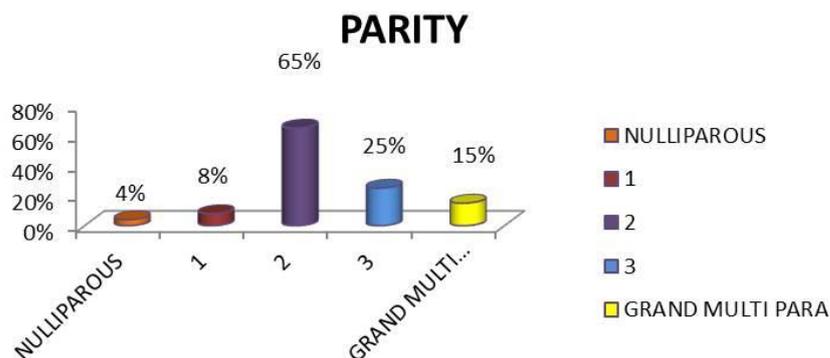
## Results

Leiomyoma was the most common benign tumor of the uterus and commonly affects the women of child bearing age, most commonly in the 3<sup>rd</sup> decade about 58%. Most common mode of

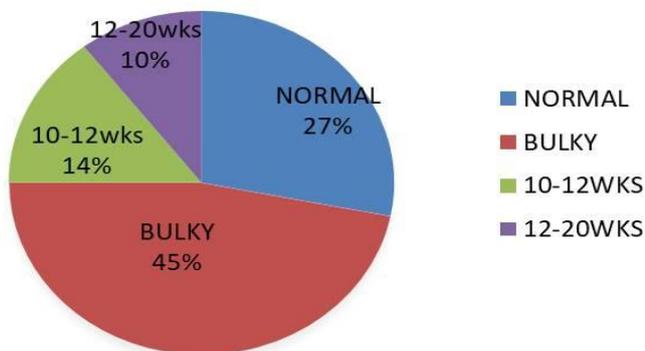
presentation was menstrual disturbances about 80% of which menorrhagia most common. Intramural fibroids were most common variety accounting to 69% of cases followed by subserosal 22%, submucosal 8%. Infertility was seen in 4% cases. Ultrasound can detect 96% of fibroids. 85% cases associated with chronic cervicitis, 13% of cases associated with adenomyosis and 10% with cystic ovaries. 50% of cases were undergone TAH only, 28% cases

were undergone TAH with BSO. 4% of cases were undergone myomectomy. Endometrial pattern was proliferative 68% of cases. Cystic ovaries were seen in 10% of cases and adenomyosis was seen in 14% of cases. Secondary changes such as hyaline, mucoid, cystic and fatty degeneration were also seen, most commonly in intramural leiomyoma (**Table – 1 to 8, Graph – 1 to 7**).

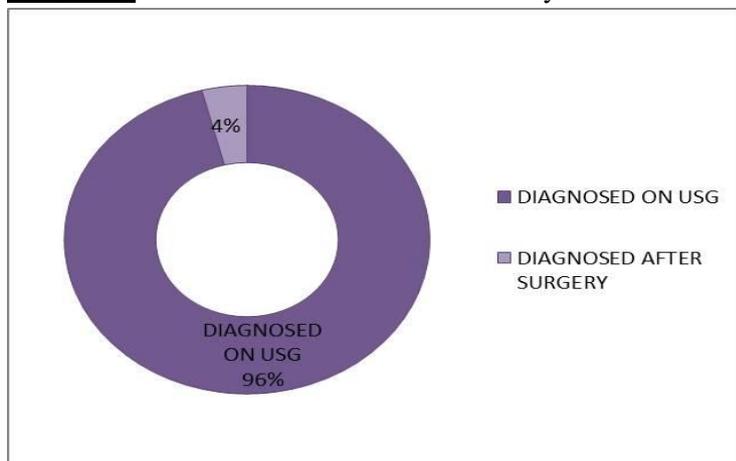
**Graph - 1:** Distribution of cases based on parity.



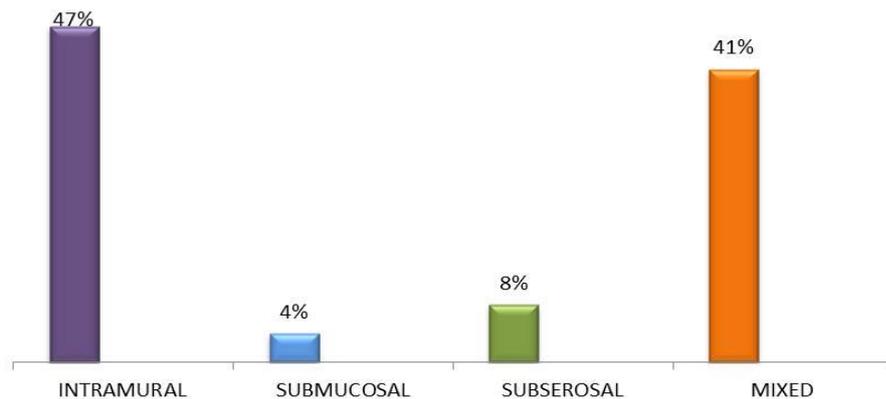
**Graph – 2:** Distribution based on size of uterus in PV examination.



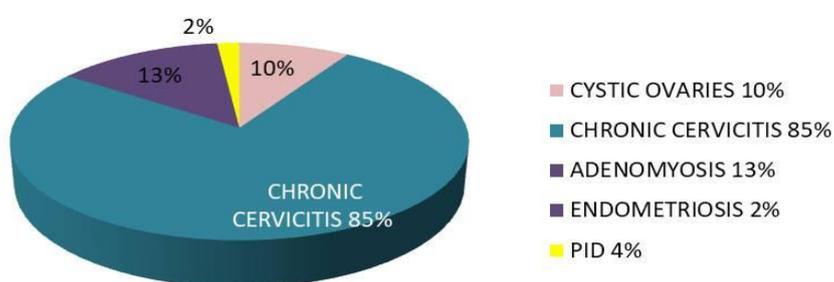
**Graph – 3:** Distribution based on detection by ultrasound.



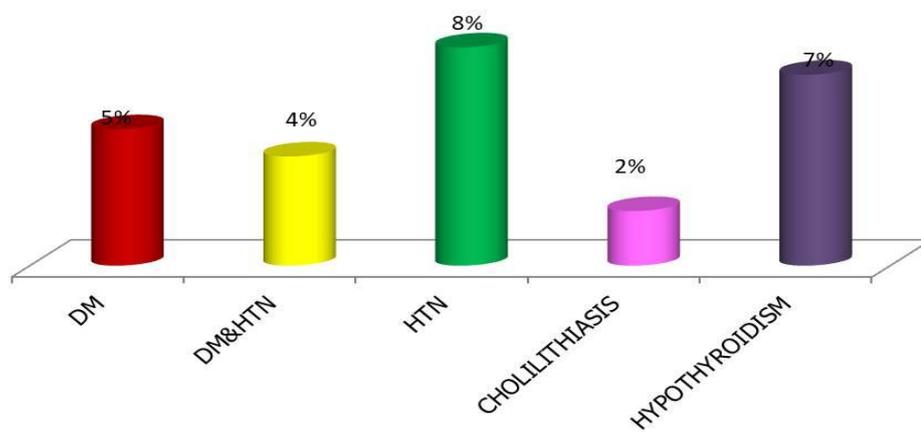
**Graph – 4:** Distribution based on type of fibroid.



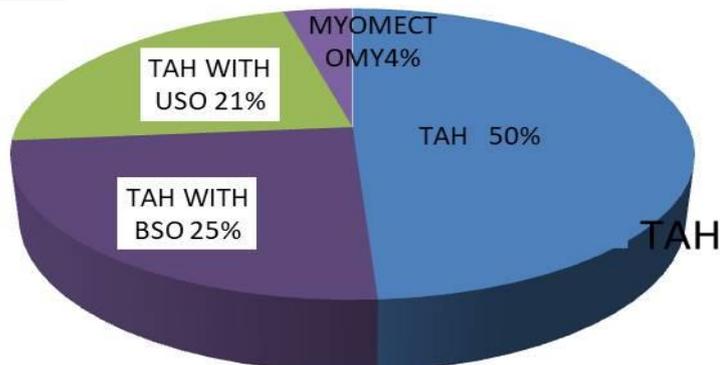
**Graph – 5:** Findings.



**Graph – 6:** Distribution based on associated co-morbidities.



**Graph – 7:** Distribution based on type surgery performed.



**Table - 4:** Distribution based on number of fibroids.

USG finding	No. on ultrasound	No. on surgery
Intramural	47	51
Multiple intramural	35	41
Subserosal	8	8
Submucosal	2	4
Seedling fibroids	37	48
Cervical	1	3
Broad ligament	2	2
Vaginal	1	2

**Table - 5:** Distribution based on type of degeneration.

Degeneration	%
Hyaline degeneration	5
Myxoid degeneration	3
Cystic degeneration	1
Calcarea degeneration	1
Sarcomatous degeneration	0
Fatty degeneration	2

**Table - 6:** Distribution based on endometrial pattern on HPE.

Endometrial pattern	%
Proliferative	66%
Secretory	20%
Hyperplasia	5%
Cystic glandular hyperplasia	3%
Atrophic	6%

**Table - 7:** Distribution based on associated pelvic pathology.

Associated pelvic pathology	Number
Cystic ovaries	10
Chronic cervicitis	85
Adenomyosis	13
Endometriosis	2
Pelvic inflammatory disease	4

## Discussion

Uterine fibroids are slow growing benign tumors arising from smooth muscle cells of the myometrium [5]. Slow growing asymptomatic fibroids grow to huge size with minimal menstrual disturbances. They often presents with pressure symptoms in multiparous women. Most of these are intra mural fibroids which are

confined to the myometrium [6]. Often patients reports with feeling of heaviness of abdomen and lower abdominal pain. Approximately 20% to 30% of women incidence of leiomyoma is the highest in the third decade in the present study, age of the participants ranged from 20-65 years, in our study 96% patients with fibroids presented between ages 25-55 years and the youngest patient was 20 years old, which is very close to study done by Dayal, et al. [7] in their study observed that 78% of patients presented between 31 and 50 years [7]. This is similar to incidence from our hospital Usha, et al. [8], in their study leiomyoma is a disease seen in women of child bearing age. Similarly, the incidence of leiomyoma was the highest among the multiparous group in most of the studies [8, 9, 10, 11, 12], as depicted in **Table - 9**. 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 last child birth and development of symptoms [9].

The analysis of symptoms shows that the menstrual complaints were predominant among all the study groups with comparable results. The chief complaint in our study is menorrhagia other complaints such as lower abdominal pain, mass per abdomen were also found. Our study is comparable to those by Ibrar, et al. [4] also found menorrhagia is the most common clinical symptom with leiomyoma. Subserosal and cervical leiomyoma are usually asymptomatic but may cause symptoms such as abdominal mass, pain. Primary infertility due to fibroid has been seen in 2% of cases in our study, whereas Vilos [14] have reported an infertility rate of 1-3% associated with fibroids which is similar to our study.

About 47% were intra mural fibroid which is the most common variety. Similar results were obtained by Chhabra, et al. [10] (47%) whereas Shaw [5] (73%) and Usha, et al. [8] (77%). About 15% of the cases had multiple fibroids in our study. Incidence of cervical fibroids in our study is 3%, whereas in Ibrar, et al. [4] (3%), Shaw, et al. [5] 4%, Bhaskar Reddy [13] 0.6%,

Maitri, et al. [9] study 6% which is very high compared to our study. The histological pattern of endometrium observed was of proliferative type in 66% of the cases, and the results are comparable to those quoted by Maitri, et al. [9] (66.3%), Chhabra, et al. [10] (40%). This indicates hyperestrogenic states associated with fibroids, and endometrium was secretory in 20%

of cases. The Association with cystic ovaries and Adenomyosis also indicates hyperestrogenism. Only 5% had hyaline degeneration. Most secondary changes were attributed to intra mural fibroids. This may be owing to the diminished vascularity in the large fibroids. The immediate cause of degeneration is an interference with capsule circulation.

**Table - 8:** Distribution based on type of fibroid with degeneration.

Type of fibroid	Hyaline change	Myxoid degeneration	Cystic changes	Fatty changes
Intra mural	2%	2%	3%	3%
Sub serosal	1%	2%	0%	0
Sub mucosal	0%	3%	2%	1%
Cervical	0%	0	0	0

**Table - 9:** Comparison of various symptoms.

Symptoms	% in our study	Jalandhara, et al. [12]	Pinto, et al. [11]	Usha, et al. [8]	Chhabra, et al. [10]	Maitri, et al. [9]
Menstrual disturbances	85%	59%	72.8%	94%	63%	76%
Dysmenorrhoea	20%	-	4.2%	42%	-	20%
White discharge	16%	9.5%	6.7%	-	13%	12%
Pain abdomen	36%	25%	19.4%	45%	-	33%
Mass per abdomen	13%	27.5%	17.7%	21%	23%	13%
Mass per vagina	2%		5.9%		10%	1%
Urinary symptoms	2%		6.7%		6%	15%
Bowel symptoms	-					
Infertility	2%	-	-	6%	16%	15%
Asymptomatic	-	-	-	15%	13%	2%
Others	-	-	-	15%	13%	4%

## Conclusion

Uterine leiomyoma (Fibroids) are most common benign tumors of the pelvis, effecting mostly 3<sup>rd</sup> decade of women. Intramural is most common variety, menorrhagia is most common mode of presentation and detection rate by ultrasound is also high. so ultrasound is gold standard test to diagnose the fibroids. The proliferative endometrium commonly reported. the presence of proliferative endometrium, adenomyosis, cystic ovaries all are indicators of hyper estrogenic state associated with fibroids. In study we concluded that routine screening, early detection, increase in awareness by early reporting to hospital will reduce surgical

morbidity and improves the quality of life socio-economically. The most practical investigative modality has always been gray-scale ultrasonography. Accuracy was 90% in correlation with clinical, sonological, surgical, histological findings.

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