

STUDY OF FIBROID UTERUS

1. **DR VIJAY Y KALYANKAR**, MD OBGY, OBGY DEPARTMENT, GMCH AURANGABAD, AURANGABAD, MAHARASHTRA, INDIA
2. **DR BHAKTI VIJAY KALYANKAR**, MD OBGY, OBGY DEPARTMENT, GMCH AURANGABAD, AURANGABAD, MAHARASHTRA, INDIA
3. **DR SRINIVAS N GADAPPA**, MD OBGY, OBGY DEPARTMENT, GMCH AURANGABAD, AURANGABAD, MAHARASHTRA, INDIA
4. **DR REVATI RAMESHWAR GHAYAL**, MD OBGY, OBGY DEPARTMENT, GMCH AURANGABAD, AURANGABAD, MAHARASHTRA, INDIA – CORRESPONDING AUTHOR, EMAIL ID- revati284@gmail.com
5. **DR MEGHA CHAUHAN**, MD OBGY, OBGY DEPARTMENT, GMCH AURANGABAD, AURANGABAD, MAHARASHTRA, INDIA
6. **DR SHIVANGI S VERMA**, MD OBGY, OBGY DEPARTMENT, GMCH AURANGABAD, AURANGABAD, MAHARASHTRA, INDIA

Abstract:

INTRODUCTION-uterine fibroids are common tumor of uterus, seen in reproductive age group. Fibroids during pregnancy produce special challenges during labour. Small fibroids with minimal symptoms treated with medical management, while large, multiple fibroids with pressure symptoms require surgical management. Fibroids during pregnancy produces special challenges during labour.

AIMS & OBJECTIVES –To study and analyse the Risk factors associated with fibroids, Clinical features according to different type of fibroid, Different types of management of fibroid.

METHODOLOGY- fibroid cases were diagnosed clinically and with ultrasonography. Details of clinical examination findings, investigations and treatment modalities used were noted. Difficulties during surgery and methods to overcome were studied.

Histopathology details of specimen and other associated findings were studied.

RESULTS- Fibroids are Commonly seen in reproductive age group showing 45.5% cases. Majority cases are multipara seen in 79.35% cases and 5.14% cases are pregnant patients with fibroid. Intramural fibroid was seen in 60% and presented with menorrhagia (73%) and dysmenorrhea (50.5%). Fibroids presented with menstrual symptoms were seen in 96.15% cases. 61.7% cases underwent surgical management in that Total Abdominal Hysterectomy alone constitute 76.19%. neglected fibroids were common in rural areas making surgical management more common.

CONCLUSIONS- Pre-operative adequate preparations with general build-up for anesthesia and surgery, imaging studies, ureteric stenting where-ever required, use of GNRH analogues and following the principles of Fibroid surgery, made successful surgeries with no surgical morbidity and mortality. Caesarean section is common mode of delivery in fibroids in pregnancy with no complications.

Key words – Fibroid, uterus, surgery, menstrual symptoms, hysterectomy

INTRODUCTION

Uterine fibroids are the most common type of benign tumor of uterus¹ originating from myometrial smooth muscle cells^{2,3}. Risk factors for developing fibroids are age, early age at menarche, reduced fertility, frequent alcohol and caffeine consumption, obesity, hypertension, diabetes mellitus, previous pelvic inflammatory disease⁴.

The uterine fibroids are classified according to their anatomical location: Submucous, Intramural, Subserous. The presenting symptoms with fibroid are menstrual irregularity, abdominal mass, abdominal pain, urinary frequency, and urgency, infertility. Symptoms depend on number, size & location of fibroids⁵.

Fibroids undergo types of degeneration as hyaline, cystic, myxoid, atrophic, red degeneration and dystrophic calcification.

Ultrasonography is the initial screening tool, while MRI or CT scan used for detail study.

Medical management used are NSAIDs, mefenamic acid, progesterone, Selective progesterone receptors modulators, Gonadotropin Releasing Hormone agonist, Gonadotropin releasing hormone antagonist and aromatase inhibitors.

In cases with large fibroids, long term cases with severe symptoms surgical interventions are used^{6,7,8} like myomectomy, polypectomy, laparoscopically assisted vaginal hysterectomy, total laparoscopic hysterectomy, non-descent vaginal hysterectomy and total abdominal hysterectomy.

Fibroid increases in size & become more vascular in pregnancy and associated with an increased rate of spontaneous miscarriage, preterm labour, placenta abruption, malpresentation, labour dystocia, caesarean delivery, and postpartum hemorrhage.

Fibroids significantly affect quality of life⁹. Of all Hysterectomies done, 50% are done for Fibroids. Hence, it becomes important to study in detail regarding fibroids, so this study is being conducted.

Aims & Objectives

To study and analyse

- I. The Risk factors associated with fibroids
- II. Clinical features according to type of fibroid
- III. Different types of management of fibroid.

Materials and Methods

A prospective observational study was conducted after Institutional ethical committee clearance at our tertiary care center from October 2018- October 2020 among all cases of fibroid admitted at our tertiary care hospital till discharge. On admission, detailed history, clinical examination, and investigations, medical methods used were recorded in CRF form. Medical management is given in eligible cases, which if failed treated surgically. Criteria for surgical management-

- Size of uterus >12 weeks of pregnant uterus
- Symptomatic fibroids
- Failure to respond to medical therapy
- Pressure symptoms due to fibroid
- Rapidly growing fibroid
- Pedunculated subserosal fibroid prone to torsion
- Renal scan or pyelographic evidence of ureteric compression

At laparotomy, the size of uterus, number and situation of fibroids, and condition of tubes and ovaries, operative difficulty, preoperative measures to reduce complications, intraoperative and postoperative complications were noted.

Postoperatively specimen was sent for histopathological examination to confirm the lesions, degenerative changes, associated endometrial pattern and for changes in the ovaries, tubes, and cervix.

The data was compiled in master chart that is in MS EXCEL sheet and Statistical analysis was done by using SPSS (version 20) i.e., statistical package for social sciences for windows and data was presented as percentages and visual impression like pie diagram, bar diagram etc.

Inclusion Criteria: All women diagnosed with fibroid (pregnant & nonpregnant cases) admitted for treatment of fibroid at our tertiary care center.

Exclusion Criteria: Indoor Patients who had not given consent to be excluded from study.

RESULT

Table 1. distribution of cases according to age and parity.

AGE	NO OF PATIENTS	PERCENTAGE
21 -30	13	9.5%
31-40	62	45.5%
41-50	53	38.9%
=>51	8	5.8%
PARITY		
NULLIPARA	8	5.8%
PARA 1	13	9.5%
PARA 2	34	25 %
PARA 3	34	25 %
PARA 4	30	22.05%
PARA 5 & MORE	10	7.3%
PREGNANCY CASES WITH FIBROID	7	5.14%

In this study 136 fibroid patients admitted at Department of Obstetrics and Gynecology at tertiary health care center were enrolled and yielded following results. Fibroids commonly seen in age group 30- 40 years and in multipara. Early age of menarche i.e., before 13 years & nulliparity though considered as risk factor are seen in only 42.64% and 5.8% respectively. Fibroids are found associated with 14.6% cases of hypertension, 13.84% of obesity (BMI>30kg/cm²), 7.6% of diabetes mellitus, 6.9% of hypothyroidism. 64% cases in study are Hindu, 56.61% are from urban area & 44,8% cases are literate up-to secondary school. 50% cases are from upper lower socioeconomic group according to Kuppaswamy classification.

Most common type is intramural and mixed type of fibroid was seen in 60% and 9.23% cases respectively. Fibroid presented with menstrual symptoms seen in 96.15% cases, in that menorrhagia alone constitute 70% cases followed by dysmenorrhea seen in 47.69% cases. Different types show typical symptoms. Intramural fibroids commonly present with menorrhagia (73%) and dysmenorrhea (50.5%). 36% cases had uterus size of 12 to 16 weeks pregnant uterus. 14.7% cases presented with uterus more than 20 weeks pregnant uterus.

Medical management was given to 68.5% cases which includes NSAIDS, tranexamic acid, progesterone, GNRH agonist, aromatase inhibitors, SPRMS, mifepristone, but 35.2% in it failed to respond and landed in operative management. 61.7% cases underwent surgical management in that Total Abdominal Hysterectomy alone constitute 76.19% and myomectomy in 10.7% cases.

There were 7 cases of caesarean sectioned in fibroid with pregnancy. Cervical fibroid was seen in 3 cases, the sizes varied between 5cm to 11cm. the caesarean section was done for disjunction labour, oblique lie, and foetal distress in 3 separate cases. Intramural fibroid with size 8cm to 11cm was found in two cases. caesarean section was done for PPRM with uneffaced cervix in one case and transverse lie in labour in other case. In one case of subserosal fibroid caesarean section was done for Primi Breech section. The last case had section for foetal distress who had a broad ligament fibroid of 4*4*4cm. In all cases surgery was uneventful since all were done in emergency and had complication, anemia, severe pre-eclampsia. The fibroid was not removed during caesarean section.

Different types of degeneration were seen, in that cystic and hyaline is more common present in 46.15% and 30.73% cases. Histopathology confirms the diagnosis in all cases. And majority had proliferative

endometrium (72.9%) and adenomyosis (22.9%). Chronic cervicitis is seen in 86.4% cases as an associated finding.

All 7 cases of Fibroid in pregnancy required Caesarean section due to dysfunctional labour & malpresentation. Caesarean sections were uneventful.

DISCUSSION

Table 2. comparison of incidence of various symptoms of fibroids in different studies

Symptoms	Muslina Akhter et al,2015 ¹⁰	R Gowri Shankar et al,2019 ¹¹	Jitendra Jalandhara et al, 2018 ¹²	Stephen darek 2013 ¹³	Maddila Yamuna Et Al,2020 ¹⁴	Percentage In This Study
Menstrual Symptoms	74%	61%	76%	70.3%	85%	96.15%
Urinary Symptoms	14%	2%	6%	4.6%	2%	6.1%
Pelvic Mass	40%	20%	9%	18.6%	13%	23.07%
Pain Symptoms	40%	11%	12%	-	36%	16.15%
Infertility	20%	-	15%	2.4%	2%	5.3%
Prolapse	-	-	-	-	-	3.07%

According to present study incidence of fibroids is most common in 31- 40 years of age that is 45.5%. These results are consistent with other research's like Jitendra Jalandhara et al,2018 showing 52% cases in this age group and Maitri KM 2011 & Muslina Akhter et al,2015 study showing 55% and 52% respectively in this age group. While R Gowri Shankar et al 2019 study suggest that fibroids are common in 41-50 years of age constituting 44.20% that is contradictory to our findings.

Table no 3. incidence of various menstrual symptoms of fibroids in different studies

Menstrual Symptoms	Rajeswari L Khyade 2017 study ¹⁵	Kavya Kota et al,2019 ¹⁶	M.A. Adegbesan-Omilabu et al,2014 study ¹⁷	Pinto 1966 ¹⁸	Percentage In This Study
Menorrhagia	78%	84.3%	74.3%	37.9%	70.54%
Metrorrhagia	10%	-	-	32.9%	4.6%
Dysmenorrhea	30%	20%	-	4.2%	48.06%
Irregular Menses	-	-	13.3%	-	43.41%
Polymenorrhea	22%	12.6%	-	-	16.27%
Oligomenorrhea	-	-	-	0.8%	0

Incidence of fibroids is highest in multiparous women than nullipara in maximum studies. Though the literature states that fibroid is a disease of nullipara due to excess estrogen, studies did not show that. Our study states that maximum cases that is 59.5% are multipara of parity 3 and more. And only 5.8% cases are nullipara.

These findings of parity are consistent with Muslina Akhter et al,2015¹⁰ study showing maximum cases 48% of parity 3 and more. While USHA ET AL, 1992, Maitri KM¹⁹ 2011 and Bhaskar Reddy et al,1962²⁰ shows

maximum cases with parity 1 and 2 constitute 33.15%, 50% and 45.4% respectively. Only Bhaskar Reddy et al,1962²⁰ shows maximum incidence of nullipara than other studies

Menstrual symptoms and pelvic mass were common symptoms matching other studies.

This study shows 50% cases are from Upper lower (iv) modified kuppuswamy classification. While Dr. S.A. Shinde et al,2018 study²¹ and Manjiri R Podder et al,2018²² shows maximum cases of lower (53%) and upper lower (32.25%) cases, respectively.

According to our study 57.35% cases had menarche after 13 years of age. Bing jie Wu et al,2020²³ also shows 89% cases with menarche after 13 years of age. this is contrary to Donna D. Baird et al study,2015²⁴ study showing 82% cases with menarche at or before 13 years of age. Menorrhagia and dysmenorrhea are common menstrual symptoms corresponding to other studies.

Table no 4. comparison of different types of medical treatment modalities used in different studies.

MEDICAL MANAGEMENT	Percentage of Participants Who Had Symptoms Relieved	Effectiveness Shown In Different Studies
NSAIDS	27.7%	75% (Magdalen Bofill et al, 2019 study) ²⁵
TRANEXAMIC ACID	28.8%	30% (K P Lakhani et al, 1998) ²⁶
PROGESTERON	35.72%	44.7% (Magalhães J ,2007 study) ²⁷
LEUPROLIDE	85.71%	94% (Cirkel U et al,1992) ²⁸
ULIPRISTAL ACETATE	75%	48.7% (Thomas Rabe et al,2018) ²⁹

Response to different medical management was found similar to other studies.

Table no 5. comparison of different types of surgical treatment modalities used in different studies.

Surgery	KAVYA KOTA ET AL,2019 ¹⁶	Mohanambal et al,2017 ³⁰	Muslina Akhter et al,2015 ¹⁰	Maitri KM ¹⁹ 2011	PERCENTAGE IN THIS STUDY (N =84)
TAH	73%	67%	72%	90%	76.19%
NDVH	8.5%		6%		7.1%
TLH	6.5%		-		4.7%
ABDO. MYOMECTOMY	7.5%	16.3%	20%	8%	8.3%
LAP MYOMECTOMY	-		-		1.19%
HYSTEROSCOPIC MYOMECTOMY	-		-		1.19%
POLYPECTOMY	-	11.7%	2%		1.19%
VAGINAL HYSTERECTOMY				1%	

Hysterectomy was the most common surgical management done in all studies.

CONCLUSION

Intramural and submucous fibroids were the most common Fibroids who had menorrhagia and dysmenorrhea mainly. Obesity, diabetes mellitus and hypertension in reproductive age group are associated risk factors for development of fibroids. Presenting in 4th and 5th decades, poor, multiparous and rural females in this area had large and neglected fibroids even in today's modern era thereby compelling surgical management as the mainstay of treatment. Pre-operative adequate preparations with general build-up for anesthesia and surgery, imaging studies, ureteric stenting where-ever required, use of GNRH analogues and following the principles of Fibroid surgery, made successful surgeries possible with no surgical morbidity and mortality. Caesarean section is common mode of delivery in fibroids in pregnancy with no complications.

Conflicts of interest -none.

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