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Original Research Article

Epidemiological trends and surgical versus non-surgical management of uterine leiomyomas in a tertiary care hospital

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ABSTRACT

Background: Uterine leiomyomas, commonly known as fibroids, are the most prevalent benign tumors in women of reproductive age, often contributing to significant morbidity due to symptoms like heavy menstrual bleeding, pelvic pain, and infertility. The management of fibroids varies widely and can include medical, surgical, or combined approaches, depending on various patient factors.
Methods: This cross-sectional study observational study was conducted department of obstetrics and gynecology, Shaheed Suhrawardy Medical College Hospital, Dhaka, from January 2022 to July 2022. A total of 100 women with fibroid were considered as study subjects by purposive sampling technique. Data analysis was done by statistical package of social sciences (SPSS) version 20.0.
Results: The majority of patients were aged 31-50 years, with a mean age of 38.48 years, and the most prevalent educational level was HSC (29%). Most patients (56%) were housewives, with 65% residing in urban areas, and 86% were married. The primary management approaches included medical treatment (49%) and surgical interventions (42%), with a smaller group (9%) receiving a combination of both. Oral progesterone was the most commonly used medical therapy (37.90%), while myomectomy was the leading surgical procedure (50.98%).
Conclusions: This study concludes that the majority of patients were between 31 and 50 years old, with a mean age of 38.48 years, and the most common educational attainment was HSC, comprising 29% of the cohort. Most were housewives (56%), predominantly from urban areas (65%), and (86%) were married. Management approaches included medical treatments in 49% of cases, surgical procedures in 42%, and a combined approach in 9%. Among medical therapies, oral progesterone was the most frequently used (37.90%), while myomectomy was the most common surgical intervention (50.98%).

Keywords: Epidemiology, Medical management, Surgical management, Uterine leiomyoma

INTRODUCTION

Uterine fibroids (UFs), also known as uterine leiomyomas (UL), are the most common benign neoplasm of the reproductive organs in women of reproductive age.[1] About 20% to 80% of women develop fibroids by the age of 50 and estimated that 171 million women are affected worldwide. The incidence of UL is 2 to 3 times greater among black than white women after adjustment for age and other risk factors. The higher incidence among black women is evident at nearly all ages.[2] Uterine leiomyomas are 2.2 times more frequent in first-degree relatives and are at risk for the development of fibroids when there is a family history of these tumors. Estimates that prevalence and incidence come from epidemiologic studies that use universal ultrasound screening. However, the best measures of disease burden and healthcare expenditures come from studies of hospital discharges at or self-reported rates of clinical diagnoses.[3] They are benign neoplasms composed of disordered "myofibroblasts"

buried in abundant quantities of the extracellular matrix that account for a substantial portion of tumor volume. The initiating events for fibroid genesis remain speculative. Myomas can be single or multiple and can vary in size, location, and perfusion. Myomas are commonly classified into 3 subgroups based on their location: subserosal, intramural, and or submucosal.[4] Treatment strategies are typically individualized based on the severity of the symptoms, the size and location of the leiomyoma lesions, the patient's age and chronological proximity to menopause, the patient's desire for future fertility, the availability of therapy, and the experience of the therapist. Symptomatic uterine fibroids may be treated medically, surgically, or with a combination of both. Prospective imaging studies indicate that 3% to 7% of untreated fibroids in premenopausal women regress over 6 months to 3 years.[5] Most women experience shrinkage of fibroids and relief of symptoms at menopause; therefore, depending on the severity of their symptoms, women who are approaching menopause may choose to wait for the onset of menopause before deciding on treatment.[6] Medical treatment is used mainly for temporary control of symptoms, and preoperative management. The purpose is to reduce the size of the fibroid and improve the hematological status of the patient. Several medications are available. Of these agents, gonadotropin-releasing hormone analogs (GnRHa) are FDA-approved agents for temporary preoperative use to reduce leiomyoma-related blood loss and to correct the ensuing iron-deficiency anemia. Other agents, such as selective estrogen receptor modulators (SERMs), antiprogestins, aromatase inhibitors (AIs), cabergoline, danazol, and gestrinone, have been evaluated for the treatment of uterine leiomyomas with varying degrees of success.[7] The gold standard of leiomyoma treatment is surgical intervention. Hysterectomy is the definitive surgical operation, 40-60% of all the hysterectomies performed are because of the presence of myomas, but myomectomy is still commonly performed especially in women who desire future fertility. More recently developed techniques, which include uterine artery embolization (UAE), magnetic resonance-guided focused-ultrasound surgery (MRgFUS), and myolysis, are emerging as minimally invasive alternative procedures.[8]

METHODS

This cross-sectional study observational study was conducted department of obstetrics and gynecology, Shaheed Suhrawardy Medical College Hospital, Dhaka, from January 2022 to July 2022. Women who got admitted into the hospital due to fibroid were considered as the study population. A total of 100 sample sizes were considered as study subjects by purposive sampling technique. Informed written consent was obtained from the patients and/or guardians. Face-to-face interview was conducted by using a semi-structured questionnaire containing socio-demographic parameters and relevant information (regarding fibroid uterus and their management) was collected from patient registry files and documents analysis. After collection of all the required data, these were checked, verified for consistency, and tabulated using the SPSS/PC 20.0 software. Statistical significance is set as a 95% confidence level at a 5% acceptable error level. Data were presented as the proportion of valid cases for discrete variables and as means±standard deviations for continuous variables while frequency and percentage were used to express the categorical variables. Ethical clearance was taken from the ethics committee of Shaheed Suhrawardy Medical College Hospital.

Inclusion criteria

Age: >18 years of age. Diagnosed case of fibroid. Those willing to participate.

Exclusion criteria

Post-menopausal women, pregnant women**,** asymptomatic fibroid, patients having other diseases that may affect the coagulation profile, severely ill, those not willing to participate.

RESULTS

A total of 100 patients of fibroid were included in the study. The mean age of the patients was 38.48±8.37 years. A maximum of 47% of cases were in the 41-50 years age group, 36% cases were in the 31-40 years age group, 15% cases were in the 18-30 years age group and only 2% were in the >50 years age group. The minimum age of the patients was 18 years and the maximum age of the patients was 54 years (Table 1).

Table 1: Age distribution of the patients (n=100).

Age group (years)	N	%
18-30	15	15.0
31-40	36	36.0
41-50	47	47.0
>50	02	2.0
Mean age (years)	38.48±8.37	

Table 2: Educational qualification of the patients (n=100).

Educational qualification	N	%
Illiterate	17	17.0
Below SSC	19	19.0
SSC	24	24.0
HSC	29	29.0
Graduate and above	11	11.0

Among the study cases, 17% cases were illiterate, 19% cases had educational qualifications below SSC, 24% had completed SSC, 29% had completed HSC, and the rest 11% had educational qualifications up to graduate and above (Table 2).

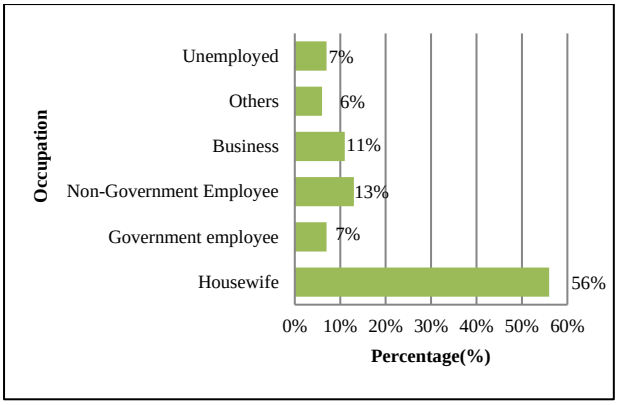

Figure 1: Occupation of the patients (n=100).

Among the study cases maximum of 56% cases were housewives, 13% were non-government employees, 11% were businessmen, 7% were government employees, 6% had other professions and 7% were unemployed (Figure 1).

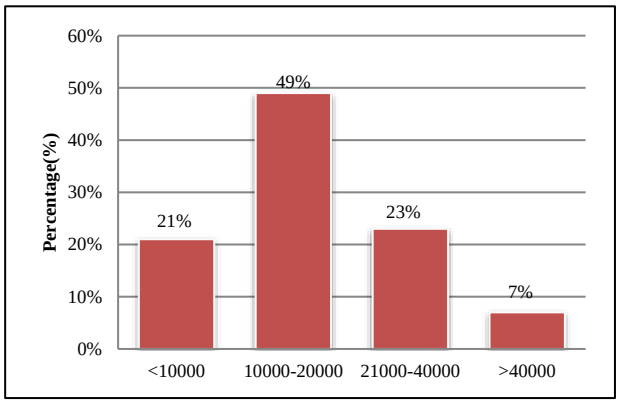

Figure 2: Monthly family income of the patients (n=100).

Maximum 49% of cases had a monthly family income of 10000-20000 BDT, 21% of cases had a monthly family income <10000 BDT, 23% of cases had a monthly family income of 21000-40000 BDT and 7% of cases had monthly family income >40000 BDT (Figure 2).

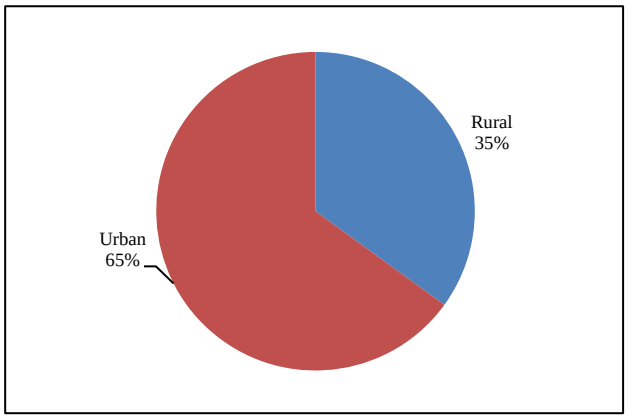

Figure 3: Resident of the patients (n=100).

Among the study cases, 65% were urban residents and 35% were rural residents (Figure 3).

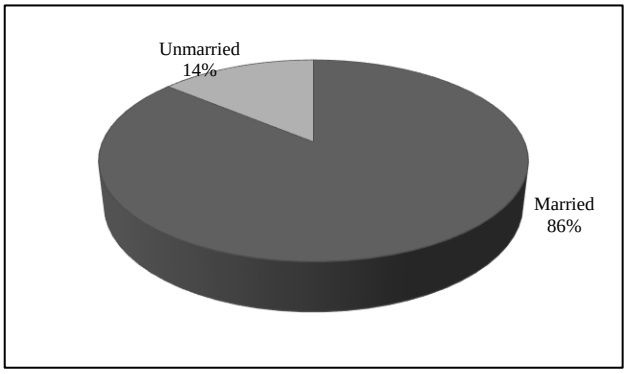

Figure 4: Marital status of the patients (n=100).

Out of 100 cases, 86% were married and 14% were unmarried (Figure 4).

Table 3: Management protocol of the patients (n=100).

Management option		N	%
Only medical	Oral progesterone	19	19.0
	OCP	11	11.0
	SPRMs	08	8.0
	DMPA	7	7.0
	LNG-IUS	4	4.0
	Overall	49	49.0
Surgical	TAH	16	16.0
	Vaginal hysterectomy	22	22.0
	Myomectomy	04	4.0
	Overall	42	42.0
Both	Oral progesterone and myomectomy	03	3.0
	OCP and TAH	02	2.0
	LNG-IUS and myomectomy	02	2.0
	SPRMs and myomectomy	01	1.0
	LNG-IUS and TAH	01	1.0
	Overall	09	9.0

OCP- oral contraceptive pill; SPRMs- selective progesterone receptor modulator; DMPA- depot medroxyprogesterone acetate; LNG-IUS- levonorgestrel-releasing intrauterine system; TAH- total abdominal hysterectomy.

Among 100 fibroid cases, 49% were managed by medical treatment, 42% were managed by surgery and 9% were managed by both medical and surgical treatment. A total of 58 cases received medical treatment. Among them 22 (37.90%) were treated with oral progesterone, 13 (22.40%) were treated by OCP, 09 (15.50%) were treated by SPRms, 07 (12.10%) were treated by DMPA and 07 (12.10%) were treated by LNG-IUS. A total of 51 cases underwent surgery. Among them, 19 (41.76%) underwent total abdominal hysterectomy and 04 (7.84%) underwent vaginal hysterectomy and 28 (50.98%) underwent myomectomy (Table 3).

DISCUSSION

The mean age of the cases was 38.48±8.37 years. Among the study cases, 15% were in the 18-30 years age group, 36% were in the 31-40 years age group, 47% of the study cases were in the 41-50 years age group and only 2% were in 51-60 years age group. This finding is similar to the finding of Srilatha and associate, Yu and associates and Wesley and associates.[9-11] According to a study maximum of 45.60% of cases were in the 40-49 years age group and according to Srilatha and co-researcher, 57.30% of cases were in the 40-59 years age group which is consistent with the finding of this study. Among the study cases maximum of 29% cases had educational qualifications up to HSC, 17% cases were illiterate, 19% cases had educational qualifications below SSC, 24% had educational qualifications up to SSC, and the rest 11% had educational qualifications up to graduate and above. Among the study cases, a maximum of 56% cases were housewives, 13% were non-government employees, 11% were businessmen, 7% were government employees, 6% had other professions, and the rest 7% were unemployed. Maximum of the study cases had monthly income between 10000-20000 BDT, 21% had monthly income <10000 BDT, 23% had monthly income of 21000-40000 BDT and 7% had monthly income >40000 BDT. Among the study cases, 65% were urban residents and 35% were rural residents. A study conducted by another author also found a maximum of their study cases were in the HSC educational qualification group and a maximum of 52% of cases had monthly income between 10000-20000 BDT which is consistent with the findings of this study and among their study cases maximum 64% were urban resident.[12] Another study conducted by Podder and associates also found almost similar results in their study.[13] Among their study cases, 17.06% were in a lower socioeconomic group, 34.14% were in the lower middle socioeconomic group, 29.49% were in a middle socioeconomic group, 12.10% were in an upper middle socioeconomic group and 7.21% were in the upper socioeconomic group. Maximum of the study cases (86%) were married. A study conducted by Srilatha and co-researchers and Shekhar and associates also found maximum of their study cases were in the married group.[9,14] According to Sekhar and associates among their study cases, 91.11% were married which is consistent with the findings of this study. Among 100 study cases, 49% were managed by medical treatment, 42% were managed by surgery and 9% were managed by both medical and surgical treatment. The selection of treatment options depends on the severity of symptoms, parity, size of tumor, and patient's desire for future fertility. Medical management was usually adapted for those patients whose family is not complete and whose symptom severity was relatively lower. Medical management includes using oral progesterone (37.90%), OCP (22.40%), selective progesterone receptor modulators (SPRMs) (15.50%), DMPA (12.10%), and LNG-IUS (12.10%). A study conducted by Sing and associates and Sohn and associates also found promising effects of these drugs on uterine fibroid in their respective studies.[15,16] Among the study cases total abdominal hysterectomy was performed in 34 (66.67%) cases, vaginal hysterectomy was performed in 04 (7.8%) cases and myomectomy was done in 13 (25.49%) cases. So, total abdominal hysterectomy is the most common surgical option that was performed in uterine fibroid patients. Das and associates, Akhter and associates, and Kulkarni and associates also found abdominal hysterectomy as the commonest surgical option for uterine fibroid among their respective studies.[12,17,18] According to Das and associates among their study cases of uterine leiomyoma myomectomy was performed in 54.90% of cases, total abdominal hysterectomy was performed in 37.25% of cases, and vaginal hysterectomy was performed in 12% of cases.[12]

The study was conducted in a single hospital with a small sample size. So, the results may not represent the whole community.

CONCLUSION

The majority of patients were between 31 and 50 years old, with a mean age of 38.48 years, and the most common educational attainment was HSC, comprising 29% of the cohort. Most were housewives (56%), predominantly from urban areas (65%), and (86%) were married. Management approaches included medical treatments in 49% of cases, surgical procedures in 42%, and a combined approach in 9%. Among medical therapies, oral progesterone was the most frequently used (37.90%), while myomectomy was the most common surgical intervention (50.98%).

Recommendations

Given the varied age, residency, and socio-economic profiles of patients with uterine leiomyomas, a patient-centered approach is recommended, integrating both medical and surgical options tailored to individual needs. Increased accessibility to non-surgical treatments could benefit younger patients and those seeking fertility preservation. For patients with advanced symptoms, surgical interventions like myomectomy or hysterectomy should be considered. Furthermore, improved patient education on treatment options may enhance decision-making and adherence, ensuring more effective management of uterine fibroids in tertiary care settings.

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