

Original Article



Frequency of Leiomyoma in Women with Abnormal Uterine Bleeding Presenting to Gynaecology Department of Hayatabad Medical Complex Peshawar

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Author's Contribution

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ABSTRACT

Objective: To determine the frequency of uterine leiomyoma in women presenting with abnormal uterine bleeding (AUB) at the Gynecology Department of Hayatabad Medical Complex, Peshawar.

Methodology: This Descriptive cross-sectional study was conducted in Department of Obstetrics & Gynecology, Hayatabad Medical Complex, Peshawar. The number of women included was 60, age 18-50 years, selected from non-probability consecutive sampling, presented with complaints of abnormal uterine bleeding. A detailed clinical history, examination and pelvic ultrasonography were done in all patients to identify uterine leiomyoma. Pregnant women, malignant and bleeding patients were excluded. For qualitative variables frequencies and percentages were computed and analysed in SPSS version 27.

Results: Of 60 patients with abnormal uterine bleeding, 22 patients (36.7%) were diagnosed with uterine leiomyoma and 38 patients (63.3%) were not seen to have fibroids on ultrasound. Age group 31-40 years had the highest number of cases (41.7%). The most common presenting symptom was menorrhagia which was seen in 53.3% of patients. The majority (45.5%) of the patients with leiomyoma were also in the age group 31-40 years.

Conclusion: Women of reproductive and perimenopausal age who experience abnormal uterine bleeding often have uterine fibroids, also called uterine leiomyomas. Ultrasonography is the key diagnostic tool for early detection and timely treatment and avoidance of complications.

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Introduction

Abnormal uterine bleeding (AUB) is one of the most common gynaecological complaints seen in outpatient clinics throughout the world, and is a significant source of physical, psychological and social morbidity among women of reproductive and perimenopausal age. It is described as bleeding from the uterine corpus that is irregular in regularity, quantity, frequency or duration in non-pregnant women.¹ Epidemiological data indicate that AUB occurs in about a third of women at some time in their life, with higher prevalence seen at the time of menarche and perimenopause, when hormonal changes occur. AUB is not just a frequent condition, but also one that is associated with underlying structural and non-

structural disease processes that may need medical or surgical treatment.

The classification system of the International Federation of Gynecology and Obstetrics (FIGO) has been created in order to standardize the evaluation of AUB. It classifies causes into structural lesions (Polyp, Adenomyosis, Leiomyoma and Malignancy/hyperplasia) and non-structural causes (Coagulopathy, Ovulatory dysfunction, Endometrial disorders, Iatrogenic causes, and Not otherwise classified).² Structural causes such as uterine fibroids are always among the most prevalent ones globally.³

Uterine Leiomyomas are smooth muscle tumours of the uterus which is also known as fibroids. They are the most prevalent common benign tumors seen in women of

reproductive age and can be seen in up to 20–40% of women depending on age and population studied.^{4,5} While most fibroids are not associated with any symptoms, a percentage of women do experience clinical symptoms, including heavy menstrual bleeding, pelvic pain, pressure symptoms, inability to become pregnant, and reproductive dysfunction.⁶ Of these, the most frequent presenting complaint is abnormal uterine bleeding and is the most frequent reason for a woman to consult her gynecologist.

The pathophysiology of AUB related to leiomyoma is complex. Fibroids can deform the endometrium, enlarge its surface area, disrupt its normal contractions, and disrupt the normal process of angiogenesis within the endometrium, which may result in excessive menstrual blood loss.⁷ In particular, submucosal fibroids have a strong association with HMB, because they are close to the endometrial lining and because of their effect on uterine vascular structures.⁸

The prevalence of uterine fibroids is different in various populations worldwide, depending on genetic susceptibility, hormonal factors, environmental risk factors, and diagnostic practices. In South Asia, leiomyoma is found to be one of the significant causes of AUB in the hospital population, especially in tertiary level hospitals. Fibroids are one of the most common structural causes of abnormal uterine bleeding in a Gynecology patient in Pakistan and are therefore very important in clinical practice.⁴

The effects of AUB caused by leiomyoma go beyond the physical. Menorrhagia can also cause iron deficiency anemia, loss of productivity, low quality of life and psychological stress. Heavy/massive periods and anxiety are common complaints from women with long periods of menstruation. Delayed presentation and late diagnosis also adds to the burden of disease and the need for surgical procedures, including hysterectomy, in resource-constrained healthcare systems.

The diagnosis of uterine leiomyoma is mostly clinical, based on the evaluation of the patient, which is complemented by imaging modalities, ultrasonography being the first-line and most widely used diagnostic modality. It is non-invasive, inexpensive and easily available in most of the tertiary care hospitals including Hayatabad Medical Complex, Peshawar. Management planning is crucial to the accurate diagnosis of fibroids, and could involve medical treatment, minimally invasive treatment methods, or surgical treatment, depending on the severity and the patient.¹⁴

Even with improvements in diagnosis, there are differences in prevalence of leiomyoma reported on women with AUB in various regions. This variability is subjected to the study design, sample population and diagnostic criteria employed. Several studies have cited fibroids as the most common structural cause of AUB, and others have pointed to adenomyosis or endometrial dysfunction as more common causes of AUB.⁹ This is a discrepancy which reflects the need for local data in making a clinical decision.

There have been few studies in Pakistan investigating the prevalence of leiomyoma in the context of women with AUB in the hospital setting. Current evidence indicates fibroids are a substantial component of gynecological hospital admissions and are the main reason for hysterectomy in women of childbearing and perimenopausal years.⁷ But there is a geographic variation in the country which requires further study for the disease pattern in particular tertiary care centers.

A large number of patients come to Hayatabad Medical Complex, Peshawar daily with the complaints of abnormal uterine bleeding. But little is known about the rate of uterine leiomyoma in these patients. It is crucial to determine local prevalence to enhance the diagnostic accuracy, to best allocate resources, and to create evidence-based management protocols.

So, this study will try to find out the prevalence of uterine fibroid in women who seek medical consultation for abnormal uterine bleeding at the Gynecology Department of Hayatabad Medical Complex Peshawar. This research will add to the body of literature and could support clinicians in early detection and treatment of this common gynecological condition, which will lead to better patient outcomes.

Methodology

The study was descriptive and cross sectional which was carried out at Department of Obstetrics & Gynaecology Hayatabad Medical Complex (HMC), Peshawar, a tertiary care teaching hospital with a high patient turnover. This study was performed after getting approval from the institutional ethical review committee from Jan 2024 to June 2024.

There were 60 women with abnormal uterine bleeding (AUB) enrolled in the study. The sample size was selected through non-probability consecutive sampling technique and all eligible patients who met the inclusion criteria

within the study period were recruited until the sample size was targeted.

The study included women aged 18-50 years with abnormal uterine bleeding. Confounding factors, such as pregnancy, pregnancy-related bleeding, known cases of gynecological malignancy, bleeding disorders, and anticoagulant therapy were excluded.

Detailed history taking was done after informed written consent was taken from each patient which included age, nature of bleeding, its duration, menstrual pattern and associated symptoms. All cases had a comprehensive general physical and gynecological examination. To assess uterine pathology, pelvic ultrasonography (transabdominal and/or transvaginal) was performed. Uterine leiomyoma was diagnosed by the usual ultrasound characteristics of well-defined hypoechoic masses located within the myometrium and recorded in terms of size, number and location.

A pre-designed structured proforma was used to gather all information. SPSS version 27 was used to analyze the data. Descriptive statistics were used and frequencies and percentages were calculated for qualitative variables including presence of leiomyoma, and mean and standard deviation for quantitative variables including age. Data was tabulated and graphically shown for easy interpretation.

Ethical clearance was given before starting the study and confidentiality of all the participants was kept during the process of conducting the research. No personal identifying information was released and data were only used for academic and research purposes.

Results

This study included a total of 60 patients with abnormal uterine bleeding (AUB). The frequency of uterine leiomyoma was analyzed along with demographic and clinical characteristics.

Patients' mean age was 36.5 ± 7.2 years. The majority of patients were in the age group 31-40 years followed by 41-50 years. The most common presenting complaint was menorrhagia.

A large proportion of women who presented with AUB had uterine leiomyoma detected.

Of the 60 women with abnormal uterine bleeding, 22 (36.7%) had an abnormal ultrasound finding of uterine leiomyoma. The 31-40 age group had the most frequent age. Menorrhagia was still the predominant symptom.

Table 1: Age Distribution of Patients (n = 60)

Age Group (years)	Number of Patients	(%)
18-25	8	13.3%
26-30	12	20.0%
31-40	25	41.7%
41-50	15	25.0%
Total	60	100%

Table 2: Frequency of Uterine Leiomyoma (n = 60)

Diagnosis	Number of Patients	Percentage (%)
Leiomyoma Present	22	36.7%
Leiomyoma Absent	38	63.3%
Total	60	100%

Table 3: Presenting Symptoms (n = 60)

Symptom	Number of Patients	(%)
Menorrhagia	32	53.3%
Intermenstrual bleeding	12	20.0%
Polymenorrhea	8	13.3%
Dysmenorrhea	8	13.3%
Total	60	100%

Table 4: Age Distribution of Leiomyoma Patients (n = 22)

Age Group (years)	Number of Patients	Percentage (%)
18-25	1	4.5%
26-30	5	22.7%
31-40	10	45.5%
41-50	6	27.3%
Total	22	100%

Discussion

The present study was carried out to find out the prevalence of uterine fibroids among women who presented with abnormal uterine bleeding (AUB) in Hayatabad Medical Complex, Peshawar. In this study, leiomyoma was found in 36.7% of patients suggesting that fibroids are an important structural etiology of AUB in our population. The results are in line with the international literature where Leiomyoma is reported to be one of the most frequent benign uterine tumors in women within reproductive and perimenopausal age.¹⁷

Abnormal uterine bleeding is a complex phenomenon and is one of the most common gynecologic complaints in the world. The FIGO PALM-COEIN classification has brought uniformity to the treatment of AUB where the leiomyoma (L) is considered a part of the structural causes of AUB which are diagnosed by imaging.¹⁸ Our study

employed ultrasound as the main diagnostic tool, consistent with the worldwide recommendations that ultrasound should be the first choice of investigation when a woman wants to investigate her fibroids.

Our study showed a prevalence of 37.6% leiomyoma, similar to the prevalence data of other populations in South Asia. Our findings are similar to a large, multicenter study that reported approximately 30–40% of women with AUB had fibroids.¹⁹ Greater prevalence has been noted in Western populations, however, especially African-American women, with lifetime risks being greater than 60-70% attributed to genetic and hormonal influences.²⁰ These differences reflect the effects of ethnicity, environmental exposure and diagnostic practice on the prevalence of disease.

The age distribution of our study showed that most leiomyoma cases were in women between the ages of 31 and 40 years. This corresponds with previous work that suggests that fibroids are typically diagnosed in the reproductive years with highest occurrence in the fourth and fifth decades of life.²¹ In fact, estrogen and progesterone are known to be important to fibroid growth, and that's why fibroids are more likely to occur during the reproductive years, when the hormones are at their peak.

The most common symptom in our study was menorrhagia. Several studies have shown that heavy menstrual bleeding is the most common symptom of uterine fibroids.²² Mechanism involves increased endometrial surface area, abnormal uterine contractions and local hemostasis. Submucosal fibroids are particularly linked to heavy bleeding in periods, because they are next to the endometrium.

The diagnostic evaluation included a pelvic ultrasound in all patients, for confirmation of leiomyoma. These are consistent with current recommendations where transvaginal ultrasound has been shown to be the most sensitive and specific imaging tool for the detection of uterine structural abnormalities.²³ In resource-constrained areas such as Pakistan, ultrasound is still the most convenient and economical method of diagnosis.

Several factors might explain the relatively high prevalence of leiomyoma found in our study population. That women in our region frequently delay seeking care because treatment is not sought early in the disease process is the first point. Second is that perhaps there is underdiagnosis in early stages due to lack of routine gynecological screening. Thirdly, tertiary hospitals may have referral bias which will have an effect in increasing

the percentage of structural causes (fibroids) in cases of AUB.

When we look at the figures with other countries, the figures from European countries and North America indicate a slightly higher detection rate for fibroids, which is mostly attributed to the use of advanced imaging techniques and routine health screening programs.²⁴ However, studies in developing countries are variable, with a prevalence of 20%–50% in the hospital setting and depending on the population. Such diversity highlights the need for local epidemiological data for clinical decision making.

UB due to leiomyoma is clinically important. Heavy bleeding can cause iron deficiency anemia, fatigue, decreased productivity and decreased quality of life. In addition, fibroids can also cause other issues that can have an impact on fertility and pregnancy outcomes, so early diagnosis and management is essential.²⁵ The majority of patients in our study population had prolonged symptoms, suggesting a need for increased awareness and early intervention strategies.

A primary management approach for uterine fibroids is medical treatment, or surgical treatment if the fibroids are severe, symptomatic or the patient prefers. Medical management – hormonal therapy; surgical – myomectomy or hysterectomy. In special cases, minimally invasive techniques like uterine artery embolization are gaining popularity.

A strength of this study was the well-defined sample size, the standardized approach to diagnosis with ultrasound and the tertiary care population, which included a wide spectrum of disease severity. There are some restrictions, however. The study has a single-center design, so the results may not be applicable to all of the population. Furthermore, the number of cases without histopathological confirmation may lead to diagnostic variation.

The study has some limitations, however, it does have some good local data about the burden of leiomyoma in women with AUB. The significance of such evidence lies in the guidance to clinical practice, enhancement of the diagnostic process and planning of healthcare resources in tertiary care centers.

Conclusion

This study was able to conclude that Uterine Leiomyoma was one of the common structural cause of AUB in the

Gynecology Department of Hayatabad Medical Complex, Peshawar with frequency of 36.7%. The age group with the greatest burden was women aged 31-40 years and the commonest presenting complaint was menorrhagia. These results indicate that leiomyoma is still a relevant gynecological condition, and it plays a relevant role in the abnormal uterine bleeding of reproductive and premenopausal women. The timely diagnosis of the disease with ultrasonography is very important in the disease management for the reduction of morbidity caused by the disease and improving quality of life.

RECOMMENDATIONS

Based on the results of this study, the authors recommend early and complete evaluation of all women with abnormal uterine bleeding with the initial test of choice being pelvic ultrasonography for the detection of structural causes, including uterine leiomyoma. The awareness of women about menstrual abnormalities should be raised and prompt medical attention should be sought to avoid delayed diagnosis and associated complications like anemia and diminished quality of life. Primary healthcare providers should be educated on the features of abnormal uterine bleeding that might be caused by fibroids and ensure prompt referral to specialist gynecology services. To achieve uniform and evidence-based care all gynecology departments should have standardized protocols for diagnosis and management, based on the FIGO guidelines. Moreover, bigger multicenter studies are needed to assess the regional burden, risk factors and outcomes of uterine leiomyoma in women with AUB in our population.

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