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Clinical Presentation of Uterine Fibroid and the Presence of Co-Existing Other Pathologies Like Endometriosis and Adenomyosis at Tertiary Care Centre

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ABSTRACT

Background

Uterine fibroids are slow growing, benign tumors that arise from smooth muscle cells of the uterus. Their growth depends on estrogen and progesterone. They can present with excessive vaginal bleeding leading to anemia, weakness and pain during menstrual period, pelvic pressure, bladder and bowel impairment leading to urinary retention, abdominal lump or reproductive dysfunction. Adenomyosis and endometriosis can co-occur with fibroid and share overlapping estrogen related pathophysiological mechanisms.

Methods

This cross-sectional study was conducted in Department of Obstetrics and Gynecology, College of Medical Sciences from March to August 2025. Ethical approval was obtained from the Institutional Review Committee (IRC) of College of Medical Sciences and Teaching Hospital. Using the convenience sampling method, 288 women were evaluated, and 116 women were confirmed to have fibroid uterus and hence enrolled in the study. Clinical presentations like abnormal uterine bleeding (AUB), anemia, abdominal lump, retention of urine and ultrasound (USG) findings of fibroid were recorded. Data was entered in Microsoft Excel 2016 and analyzed using SPSS version 16.

Results

The mean age was 43.22 years and 71.6% were multiparous. 66% women had abnormal uterine bleeding, 24.64% had anemia and 19.36% had abdominopelvic mass. 71.6% women underwent hysterectomy and 12.1% myomectomy. Postoperatively, 81.9% women had intramural fibroid while 9.7% and 12.6% women had endometriosis and adenomyosis along with fibroid respectively.

Conclusions

Fibroid uterus manifests throughout a woman`s life so it is important to be aware of signs and symptoms for timely recognition. The most common clinical features were abnormal uterine bleeding and anemia which had negative impact on women's life.

Keywords: anemia; AUB; fibroid uterus; USG.

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INTRODUCTION

Uterine fibroid also called leiomyoma or myoma or fibroid is a slow growing, benign tumor arising from uterine smooth muscle cells.[1] Its growth depends on estrogen and progesterone, so size of fibroid often increases during pregnancy and decreases after menopause.[2] Fibroid occurs in 20-40% of women during reproductive age and 11-19% in perimenopausal age,[3] with prevalence ranging from 4.5% to 68.6% depending on research population and investigative method.[4] They account for 60% of laparotomies for pelvic disease, though less than 1% are malignant.[5] Risk factors include nulliparity, sub-fertility, genetic predisposition and hormonal influences.[4,6] The symptoms include heavy bleeding, anemia, pain during menstrual period, pelvic pressure, lump, bladder and bowel impairment leading to urinary retention, or infertility.[7] Fibroids often coexist with adenomyosis and endometriosis, sharing hormonal mechanisms and symptoms.[8,9] Ultrasonography (USG) is the main diagnostic tool[10] while MRI provides detailed information.[11] Hysterectomy is the definitive treatment, and myomectomy is preferred for fertility preservation.[12,13]

METHODS

This cross-sectional study was conducted in Department of Obstetrics and Gynecology, College of Medical Sciences, Bharatpur, Nepal from March to August 2025. Ethical approval was obtained from the Institutional Review Committee (IRC) of College of Medical Sciences and Teaching Hospital with (Ref. No. COMSTH-IRC/2025-020.) Convenient sampling method was used for data collection. The sample size was calculated using the following formula (Cochran formula): Sample size (n)=$(Z)^2$*P(1-P)/ e^2 =(1.96)2*0.08(1-0.08)/$(0.05)^2$ =113.09,

Where, Z=Z-Score value at 95% CI=1.96, P=prevalence of the disease (8%)[5], e=margin of error= 5%.

Women who visited our Obstetrics and gynecology Outpatient department (OPD) / Emergency department with abnormal uterine bleeding with anemia or abdomino-pelvic mass with pain and feeling of heaviness in the abdomen were selected after taking written Informed Consent. Inclusion criteria: Women aged 20-65 years with abnormal uterine bleeding, an abdominopelvic mass, or retention of urine with ultrasound finding of fibroid uterus. Exclusion criteria: Pregnant women, women with cervical cancer, vaginal or endometrial cancer, active pelvic infection, coagulopathy, thyroid disorder, or use of hormonal therapy like tamoxifen. Among the 288 women evaluated, 116 women were found to have fibroid. Women were subjected to a detailed history including menstrual patterns, abdominal examination, bimanual pelvic examination and investigations like Complete blood count, Urine pregnancy test and Ultrasound abdomen pelvis were done. All women underwent surgical intervention when indicated, and the histopathological findings of operative specimens were compared with preoperative clinical and ultrasound diagnoses. The information regarding clinical features, types of fibroid, hemoglobin level, types of management were collected in predesigned proforma and then entered in Microsoft Excel 2016. The data were analyzed using SPSS version 16.

RESULTS

Out of 288 women, 116 women had confirmed uterine fibroid. So, the prevalence of uterine fibroid was found to be 40.27%. The common age group for fibroid was found to be 40-49 years. Fibroid was found to be common among multiparous women (Table 1).

Table 1. Age and parity distribution. (n=116)

Variables	Frequency (%)
Age (years)	
20-29	5(4.3)
30-39	28(24.1)
40-49	65(56)
50-59	15(12.9)
60-65	3(2.6)
Parity	
P0A0	10(8.6)
P1	15(12.9)
P2-P4	83(71.6)
>P5	8(6.9)

66% women presented with abnormal uterine bleeding, 24.64% women presented with anemia due to menorrhagia, menometrorrhagia and 19.36% women presented with palpable abdominopelvic masses ranging from 12 to 32 weeks' size. The largest was 32 weeks' size intramural fibroid weighing 3.6 Kg who presented with menometrorrhagia (Table 2).

Table 2. Clinical presentation of Symptomatic fibroid.

Clinical presentation	Frequency (%)
AUB	75(66)
Dysmenorrhea	17(14.96)
Lump	22(19.36)
Cervical fibroid with retention of urine	4(3.52)
Mass protruded through cervix	2(1.72)
Anemia	28(24.64)

15 cases of fibroids were diagnosed incidentally during ultrasound done for other indications like subfertility, pain abdomen. 6 women had abdominopelvic mass on examination even without menstrual abnormality or any pressure symptoms. Size of fibroid ranged from 12 to 28 weeks' size (Table 3).

Table 3. Clinical presentation of Asymptomatic fibroid.

Asymptomatic fibroid	Frequency (%)
Abdominal pelvic mass	6(21.42)
Feeling of heaviness	7(25)
Incidental finding	15(53.57)
Total	28(100)

83(71.6%) women with uterine fibroids underwent abdominal hysterectomy. Myomectomy was done in 14(12.1%) women and polypectomy in two (1.7%) women. Rest women were managed conservatively, keeping them in follow up (Figure 1).

Among 116 women with uterine fibroid, 34 women required blood transfusion. Among them, 23 women had symptomatic fibroid while 11 had asymptomatic fibroid. Among those asymptomatic fibroid cases, four women needed more than one-pint blood transfusion. Among symptomatic fibroid cases, nine women needed more than one-pint blood transfusion. One woman who had large submucosal fibroid presented with menorrhagia with hemoglobin of 3.2 gm% received six pint of blood transfusion pre operatively and two pints post operatively.

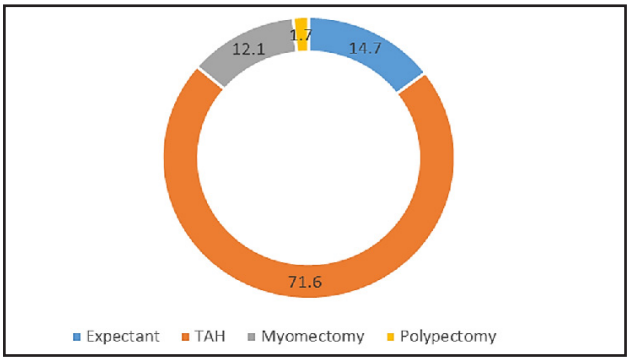

Figure 1. Management of uterine fibroid.

DISCUSSION

Uterine fibroids are slow growing benign tumors arising from smooth muscle cells of the myometrium. The prevalence of uterine fibroid is 40.27% in our study which is similar to the study conducted by Munusamy MM et al.[3] However, the prevalence of uterine fibroid varied widely across the studies from 4.5 to 68.6%.[4] The commonest age group for fibroid was 40-49 years (56.2%) with mean age of 43.22 years and common among multiparous women (71.6%). This is similar to the studies conducted by Pramila Pradhan et al., where the most common age group was 41-50 years (56.3%), mean age of 43.3 years and common in multiparous women (46.7%) [5] and in study done by Koohara et al.,[13] the most common age group was 41-50 years (58%) and common in multiparous women (67%). However, in a study done by Munusamy MM et al.,[3] the most common age group was 36-45 years (77%) with 47.79% primiparous women.

24.13% women had asymptomatic fibroid. Incidental finding being common among asymptomatic fibroid. Ultrasound done for other reasons included evaluation of subfertility and evaluation of abdominal pain. Six women had incidental finding of fibroid uterus who were undergoing evaluation of subfertility. Subfertility in 5-10% women are caused by uterine fibroid.[13] Subfertility may be associated with a submucosal fibroid or markedly distorted, enlarged endometrial cavity that interfere with normal implantation or with sperm transportation. Severe displacement of cervix is also capable of

adversely affecting sperm deposition at the cervical Os or obstruction of tubal ostia or intramural portion of the tube by large intramural fibroid may affect subfertility.[6] In our study, the most common presentation was menorrhagia (53.44%) followed by anemia (24.13%). This is similar to studies done by Koohara et al.,[13] Munusamy MM et al.,[3] and Pramila Pradhan et al.,[5] which had menorrhagia in 50%, 58.8% and 73% respectively. Excessive bleeding is attributed to vascular alterations, increased surface area of the endometrium and increasing size of the uterine cavity and endometritis which is frequently observed histologically in the endometrial tissue overlying the submucosal tumors.[5]

Among the symptomatic fibroid, 66% of women presented with abnormal uterine bleeding followed by anemia (24.64%), abdominal lump (19.36%), dysmenorrhea (14.96%) and retention of urine (3.52%). In a study conducted by Pramila Pradhan et al.,[5] the most common presentation was menorrhagia (73%) followed by abdominal pain (58.4%) and dysmenorrhoea (18.2%). However, in studies conducted by Koohara et al.,[13] and Munusamy MM et al.,[3] anemia was the most common presentation followed by menorrhagia.

Uterine fibroids co-exist with other gynecological diseases like endometriosis[14] and adenomyosis.[15] These are benign diseases that commonly affect the women of reproductive age group. All of these "womb" diseases are known to be estrogen dependent and share common symptoms like abnormal uterine bleeding, dyspareunia and pelvic pain.[16] In 15 - 57% of cases, fibroid uterus and adenomyosis co-exist in the same uterus and women with both conditions are more likely to experience pelvic pain.[17] Adenomyosis and endometriosis share a number of features, so that for many years adenomyosis has been called endometriosis interna. Nevertheless, they are considered two different entities because of specific pathogenic pathways and clinical presentation, although they often coexist in the same women.[14] Among women with fibroid uterus who underwent abdominal hysterectomy or myomectomy, 9.7% women additionally had endometriosis and 12.6% women additionally had adenomyosis. However, Taran FA reported 33% women had adenomyosis with fibroid uterus which is very much higher than in our study.[17] In few of the literatures, endometriosis, adenomyosis and fibroid had been associated with gynecological malignancies such as ovarian and endometrial cancer, as there is growing evidence that these benign diseases may undergo malignant transformation.[16] However, in our study none of the cases came out to be malignant.

Hysterectomy has been the definitive treatment whenever surgery is indicated for fibroid uterus who have completed the family and above 40 years. Several studies have demonstrated that for most women, hysterectomy is very effective in alleviating symptoms and improving the quality of life in the years following surgery.[5] 71.6% women underwent total abdominal hysterectomy, 14.7% women who were asymptomatic and had uterus size ≤12 weeks were kept on regular follow up. 12.1% women who desired to have reproductive function and less than 40 years of age underwent abdominal myomectomy. Six women with subfertility had undergone myomectomy. Myomectomy is better option for women who desire to have reproductive function but it is not without any risk like regrowth of fibroid or safety in subsequent pregnancy, there are no prospective studies to prove it.[18] Two women with pedunculated fibroid had polypectomy done.

Limitations

This study is single centered and the study period was short.

CONCLUSIONS

Uterine fibroids manifest throughout a woman's life yet many cases remain asymptomatic. Awareness and early recognition are key to lessen morbidity rate and enhance the women's quality of life. This study concluded that uterine fibroids are common in multiparous women aged 41-49 years often presenting with abnormal uterine bleeding and anemia which had negative impact on women's life. Abdominal hysterectomy remains the mainstay of

treatment followed by myomectomy, while coexisting adenomyosis and endometriosis should be evaluated for comprehensive management.

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