

CLINICO-PATHOLOGICAL EVALUATION OF PATIENTS WITH ABNORMAL UTERINE BLEEDING

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ABSTRACT

Objective: To evaluate clinical spectrum in women of different age groups presenting with menstrual irregularities without any organic pelvic pathology and to correlate clinical and pathological aspects in these women.

Study Design: Cross sectional analytical study.

Place and Duration of Study: Department of Gynecology and Obstetrics, Pakistan Naval Ship (PNS) Shifa Hospital, Karachi from Feb 2018 to Jan 2019.

Methodology: Complete history, clinical examination, laboratory investigations, pelvic scan and endometrial biopsy of patients were done to diagnose abnormal uterine bleeding without organic (structural) pathology. Evaluation of clinical spectrum of menstrual irregularities in different age groups and histopathology of their endometrial samples was done.

Results: A total of 184 cases were included. Mean age of patients presented with abnormal uterine bleeding was 38.49 ± 9.158 . It was most common in the age group 41-50 years (41.84%) followed by 31-40 years (29.34%). Majority of them were multipara 146 (79.34%). The most common presentation was heavy menstrual bleeding (50.54%) followed by irregular menstrual bleeding (17.93%). Histopathology of endometrium revealed proliferative (41.30%) followed by hyperplastic (27.71%) and secretory (21.19%) pattern. 3.26% had atrophic endometrium and 1.63% cases had endometrial carcinoma.

Conclusion: In conclusion, 41-50 year age group was mostly affected by abnormal uterine bleeding. Their menstrual pattern was heavy, irregular, frequent and prolonged. Proliferative and hyperplastic pattern of endometrium was observed in these patients.

Keywords: Endometrium, Histopathology, Menstrual disturbances.

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INTRODUCTION

One of the most common gynecological complaints presented to gynecologist in outdoor patient department is abnormal uterine bleeding (AUB)¹. Women of reproductive age normally have menstrual flow every 24-38 days. It occurs at regular interval with variation of 7-9 days across cycles. Normal duration of menstrual bleed is 4.5-8 days and about 5-80cc of blood loss occur during one menstrual flow². Abnormal uterine bleeding can be frequent (<24 days), infrequent (>38 days), prolonged (>8 days), irregular (shortest to longest cycle variation: $\geq 8-10$ days)^{2,3}. Clinically, excessive blood loss is defined as a volume that interferes with the women's physical, emotional, social, and/or material quality of life⁴. Bleeding between 2 menstrual cycles is called inter-menstrual bleeding⁵.

AUB can be due to structural/organic or non structural pathologies. "Structural" lesions can be imaged by ultrasonography and/or defined histopathologically (polyp, adenomyosis, leiomyomas and malignancy or atypical endometrial hyperlasia; PALM). Whereas non structural" cannot be imaged. With detailed

history, proper physical examination and sometimes supported by laboratory investigations, we can find the nonstructural cause of abnormal uterine bleeding (coagulopathies, ovulatory disorders, primary endometrial disorders, iatrogenic and not otherwise classified; COEIN)⁶. AUB in absence of organic lesion of genital tract can occur at any time during life span of a woman from menarche and occasionally even after the menopause in ovulatory and anovulatory cycles⁷. Its management is not complete without tissue diagnosis especially in peri and post-menopause⁸.

It has been observed that about one third of gynecological consultations are due to AUB symptoms. However, only half of affected women seek consultation. Out of which only fifty percent are satisfied after their hospital visit⁹. Evidence also shows that chronic AUB is associated with 30% reduction in work productivity¹⁰. This is an important factor of absence from work for working women. It equally affects the home environment for house wives as well. Local data in this regard is scarce as this problem has not been addressed well. Our study will help in better understanding of AUB, its ways of presentation and its histopathological finding. So we can handle this problem with more robust approach and patients can get satisfactory

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treatment. Furthermore, this will aid to research in our country.

METHODOLOGY

This analytic study was conducted in department of Gynae/Obstetrics, Pakistan Naval Ship (PNS) Shifa Karachi, from February 2018 to January 2019. The study was approved by the ethics committee of the hospital (ERC/2020/Gynae/12). Informed consent was obtained from all the participants and confidentiality was maintained.

Complete history was taken from patients presented with abnormal uterine bleeding. History included age, parity, socioeconomic status, age of menarche, pattern of menstrual irregularity (type, amount and duration of blood loss), associated pain, bleeding from any other site, history of hormonal treatment and any medical issue. Abdominal and pelvic examination was done to rule out clinical pathology. Cervical smear was taken. Pelvic scan from our radiology department was done to rule out organic pathology. Our setup provides free treatment and investigations for the entitled patients. Women with organic lesions such as tumor, fibroid, polyp, adenomyosis, medical problems such as cirrhosis and thyroid disorders were excluded. Adolescent/teen age group and unmarried ladies were also excluded as endometrial sample could not be taken from them. Only women having menstrual irregularities without organic lesions and with no co morbid (such as thyroid disorders and cirrhosis) were included.

We studied 184 cases of abnormal uterine bleeding. Sample size was calculated using WHO sample size calculator. Assuming 12% frequency of abnormal uterine bleeding among women¹¹, minimum sample size of 161 was calculated to provide study 80% power in assessing clinical and pathological aspects among

Pipelle, preserved in 10% formaline and sent for histopathological evaluation to pathology department of PNS Shifa Karachi. Patients who were bleeding were prescribed non hormonal treatment till the procedure. Evaluation of spectrum of clinical presentation and endometrial histopathological findings was done among women of different age groups.

Data was analyzed using SPSS version 19. Mean \pm SD were calculated for quantitative variables. Frequency and percentage were calculated for qualitative variables.

RESULTS

The patients presenting with menstrual irregularities had age ranging from 21-70 years with mean age 38.49 ± 9.158 . We obtained highest number of cases i.e. 77 out of 184 (41.84%) in 41-50 years of age, 54 (29.34%) in 31-40 years of age, 32 (17.39%) in 21-30 years age, 19 (10.32%) between 51-60 years while lowest being 2 (1.086%) between 61-70 years.

We observed that as compared to nulliparous women, AUB was common in parous women. Out of 184 cases, 146 (79.34%) were multipara, 31 (16.84%) were primipara and 7 (3.86%) were nullipara. Our analysis revealed that 95 (51.63%) cases of AUB were of middle socioeconomic group, 67 (36.41%) of low and 22 (11.95%) of higher socioeconomic status.

Heavy menstrual bleeding (HMB) (excessive menstrual blood loss that interferes with the women's physical, emotional, social and material quality of life and can occur alone or in combinations with other symptoms) was the most common menstrual disorder in women presenting with AUB. Ninety three cases (50.54%) were of HMB, followed by 33 (17.93%) cases of irregular menstrual bleeding (variation of >20 days in individual cycle lengths over a period of one year). Frequent menstrual bleeding (more than four men-

Table-I: Clinical presentations of menstrual irregularities in different age groups.

Menstrual Pattern	21-30 years n (%)	31-40 years n (%)	41-50 years n (%)	51-60 years n (%)	61-70 years n (%)
Heavy Menstrual Bleeding	23 (12.5%)	34 (18.47%)	33 (17.93%)	3 (1.63%)	-
Irregular Menstrual Bleeding	-	7 (3.80%)	15 (8.28)	9 (4.89%)	2 (1.08%)
prolonged Menstrual Bleeding	4 (2.17%)	-	11 (5.97%)	-	-
Frequent Menstrual Bleeding	-	3 (1.63%)	7 (3.80%)	6 (3.26%)	-
Heavy & Prolonged Menstrual Bleeding	2 (1.08%)	5 (2.71%)	3 (1.63%)	-	-
Infrequent Menstrual Bleeding	-	3 (1.63%)	8 (4.34%)	1 (0.54%)	-
Shortened Menstrual Bleeding	3 (1.63%)	2 (1.08%)	-	-	-
Total	32 (17.39%)	54 (29.34%)	77 (41.84%)	19 (10.32%)	2 (1.08%)

women of different age groups presenting with menstrual irregularities without any organic pelvic pathology. Endometrial sample of patients was taken by

strual episodes in a 90 day period) was observed in 16 patients (8.69%). Prolonged menstrual bleeding (periods exceeding 8 days in duration on a regular basis)

was seen in 15 women (8.15%). Infrequent menstrual bleeding (one or two menstrual episodes in a 90-day period) in 12 cases (6.52%), heavy and prolonged menstrual bleeding in 10 cases (5.43%) and shortened menstrual bleeding (bleeding of no longer than 2 days) was observed in 5 cases (2.71%).

In all age groups, HMB was prevailing. In 41-50 years of age group, heavy, prolonged, frequent and irregular menstrual bleeding pattern was observed as shown in table-I.

Table-II: Histopathological findings of endometrial sample.

Endometrial Status	Cases, n (%)
Proliferative	76 (41.30%)
Secretory	39 (21.19%)
Atrophic	6 (3.26%)
Hyperplastic	51 (27.71%)
Simple Hyperplasia	28 (15.21%)
Complex	14 (7.60%)
Without Atypia	6 (3.26%)
With Atypia	3 (1.63%)
Irregular Shedding	6 (3.26%)
Product of Conception	1 (0.54%)
Arias stella Reaction	1 (0.54%)
Endometrial Polyp	1 (0.54%)
Endometrial Carcinoma	3 (1.63%)
Total	184 (100%)

As far as histopathological finding of endometrium is concerned, the most common type of endometrium observed was proliferative (41.30%) followed by Hyperplastic (27.71%) and secretory (21.19%). Malignancy was found in 3 (1.63%) cases as shown in table-II.

Table-III: Histological findings in different age groups.

Endometrial Histology	21-30 year	31-40 year	41-50 year	51-60 year	61-70 year
Proliferative	20 (10.8%)	22 (11.95%)	34 (18.47%)	-	-
Secretory	11(5.97%)	28 (15.21%)	-	-	-
Atrophic	-	-	-	4 (2.16%)	2 (1.08%)
Hyperplastic Type	-	-	39 (21.19%)	12 (6.52%)	-
Irregular Shedding	-	3 (1.63%)	3 (1.63%)	-	-
Arias stella Reaction	-	1 (0.543%)	-	-	-
Endometrial Polyp	-	-	1 (0.543%)	-	-
Product of Conception	1 (0.543%)	-	-	-	-
Endometrial Carcinoma	-	-	-	3 (1.63%)	-
Total	32 (17.39%)	54 (29.34%)	77 (41.84%)	19 (10.32%)	2 (1.08%)

We observed that in all age group proliferative endometrium was common (41.30%) whereas hyperplastic type of endometrium was mostly seen in 41-60 years of age groups. Endometrial carcinoma was detected in 51-60 years of age group as shown in table-III.

This study showed that proliferative endometrium was mostly seen in patient of heavy menstrual bleeding (17.93%) and irregular menstrual bleeding (10.32%). Hyperplasia (20.1%) was observed in cases of HMB, whereas 3 cases diagnosed as having endometrial malignancy were of HMB and prolonged menstrual bleed as depicted by table-IV.

DISCUSSION

Abnormal uterine bleeding is one of the significant gynecological problem forcing patients to seek advice from doctor. In our study, we did endometrial sampling by Pipelle. Pipelle is an outdoor patient procedure and is very effective tool of endometrial sampling in low risk patient with abnormal uterine bleeding¹². Endometrial sampling can be done by Pipelle, Vebra and conventional dilatation and curettage. Now a days hysteroscopically directed biopsy is being preferred. In our study, hysteroscopically directed biopsy was not done due to non-availability of this facility in our setup.

In our study, we observed that maximum no. of cases of AUB i.e. 77 cases (41.84%) were between 41-50 years. Nayak *et al*⁷, had similar findings. Whereas Doraiswami *et al*, reported maximum cases (33.5%) in the 5th decade of life¹³. In our study, the higher frequency of AUB was observed in perimenopausal age group. It may be due to overlook of their symptoms during their reproductive life but increase in severity of symptoms and increasing disability with increasing age may have forced them to seek consultation in hospital.

The commonest presenting complaint in our

study was heavy menstrual bleed (50.54%). HMB was observed in 51.87% cases by Nayak *et al*⁷, in 64% cases by Nair *et al*¹⁴, in 38.67% cases by Palwade¹⁵, and in 40% cases by Verma¹⁶. But Jeffcoate found only in 10% of cases¹⁷.

We observed that 6.52% of cases had infrequent menstrual bleeding pattern. This is comparable to observation by Sharada¹⁸ (8%) and AK *et al*⁷ (6.25%).

Due to persistent corpus luteum, irregular shedding of endometrium was observed in 3.26% cases whereas Nayak *et al*⁷, found in 3.13% and Nagarjuna *et*

Table-IV: Histopathological findings in relation to clinical presentation.

Histology of Endometrium	Heavy Menstrual Bleeding	Irregular Menstrual Bleeding	Prolonged Menstrual Bleeding	Frequent Menstrual Bleeding	Heavy and Prolonged Menstrual Bleeding	Infrequent Menstrual Bleeding	Shortened Menstrual Bleeding
Proliferative	33 (17.93%)	19 (10.32%)	4 (2.17%)	5 (2.71%)	3 (1.63%)	10 (5.4%)	2 (1.08%)
Secretory	18 (9.78%)	8 (4.34%)	4 (2.17%)	3 (1.63%)	3 (1.63%)	-	3 (1.63%)
Atrophic	-	-	-	6 (3.26%)	-	-	-
Hyperplastic	36 (19.56%)	4 (2.71%)	6 (3.26%)	-	3 (1.63%)	2 (1.08%)	-
Irregular shedding	3 (1.63%)	-	-	2 (1.08%)	1 (0.54%)	-	-
Arias stella reaction	1 (0.54%)	-	-	-	-	-	-
Endometrial polyp	-	1 (0.54%)	-	-	-	-	-
Product of conception	-	1 (0.54%)	-	-	-	-	-
Endometrial carcinoma	2 (1.08%)	-	1 (0.54%)	-	-	-	-
Total	93 (50.54%)	33 (17.93%)	15 (8.15%)	16 (8.69%)	10 (5.43%)	12 (6.52%)	5 (2.71%)

In our study, we found 41.30% cases of proliferative pattern of endometrium. Nayak *et al*, has similar findings⁷ (41.88%). Whereas, Gazozai *et al*¹⁹ (31%) and Muzaffar *et al*²⁰ (25.8%) found lower incidence of proliferative pattern of endometrium. Bindroo *et al*, also observed higher number of cases of proliferative endometrium (37.2%) suggesting that anovulation may be reason of AUB²¹.

In our study, out of 32 cases belonging to 21-30 years of age group, 20 (10.8%) had proliferative pattern of endometrium. Similar findings were observed by Nayak *et al*⁷. HMB was the most common bleeding pattern in this type of endometrium.

We observed 21.19% of cases of secretory endometrium and most of them were of 31-40 years of age. Our incidence nearly correlates with finding of Nayak *et al*⁷ (21.88%). Whereas, Bolde *et al*²², reported low incidence of 5.97%.

We noticed endometrial hyperplasia in 27.7% cases whereas Khan *et al*, observed in 20.5% cases²³ and Nayak *et al*, in 27.5% cases⁷. In patients with endometrial hyperplasia, we found 54.90% cases with simple hyperplasia whereas Nayak *et al*⁷, found 65.9% of cases with simple hyperplasia without atypia. Majority of them were between 41-50 years of age.

We found atrophic endometrium in 3.26% of cases whereas Nayak *et al*, in 2.5% of cases⁷, Katuwal *et al*, in 68% of cases²⁴. Atrophic endometrium was observed in cases of more than 50 years of age.

al in 6% cases²⁵.

We found endometrial carcinoma in 1.63% cases whereas Nayak *et al*, observed 1.25% cases of endometrial carcinoma⁷. All of them were >50 years of age.

Our study was conducted in tertiary care hospital which is not representative of the country. PNS Shifa is a teaching hospital and caters for large number of Armed Forces and civilian personnel. Therefore, it gives insight of picture of women with abnormal uterine bleeding, their bleeding pattern and endometrium histopathology.

CONCLUSION

In conclusion, 41-50 years old ladies were mostly affected by AUB. The most common bleeding pattern in all age groups was heavy menstrual bleeding. Proliferative endometrium was the predominant histopathological type observed in our set up. Histopathological evaluation of endometrium seems quite helpful in excluding local causes and making diagnosis of AUB. This eventually is useful in determining the mode of management for patient.

CONFLICT OF INTEREST

This study has no conflict of interest to be declared by any author.

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