Original Research Article

Abnormal uterine bleeding in perimenopausal women: Clinical histopathological and sonography correlation

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A B S T R A C T

Objective: Patient who underwent hysterectomy for Abnormal Uterine Bleeding their clinical findings were related to sonography and histopathology reports.

Materials and Methods: This is retrospective observational study conducted in obstetric and gynaecology department. Patient who have undergone hysterectomy for AUB, their data retrived from case file and their ultrasonography reports and histopathological examination reports were compared.

Results: 153 women who have under gone hysterectomy had complaint of menorrhagia and they belong to perimenopausal age group, most of them were between 40-45 years of age. Ultrasonography is suggestive of fibroid in most of the patients and it is most sensitive for diagnosis of uterine fibroid.

Conclusion: Fibroid is a most common cause of AUB. Clinical, sonography and histopathological findings correlated well with the diagnosis.

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1. Introduction

Abnormality in frequency, regularity, duration or volume of bleeding in women of reproductive age is called Abnormal Uterine Bleeding (AUB). Quality of life is affected as it is associated with pain and discomfort. AUB leads to loss of productivity[1] and may result in surgical intervention including hysterectomy.[2] AUB affects 9 to 14% women between menarche and menopause.[3] In India, the reported prevalence is around 17.9%.[4] AUB patterns include menorrhagia, metrorrhagia, polymenorrhea, dysfunctional uterine bleeding and heavy menstrual bleeding.

To standardize nomenclature of AUB a system known by acronym PALM-COEIN was introduced in 2011 by FIGO.[5]

Normal and abnormal parameters of menstruation parameters are characterized under FIGO nomenclature.

Structural causes (PALM)	Nonstructural causes (COEIN)
Polyps	Coagulopathy
Adenomyosis	Ovulatory dysfunction
Leiomyomas	Endometrial
Submucosa	(Primary disorder of mechanisms regulating endometrial hemostasis)
Others	
Malignancy and hyperplasia	Iatrogenic
	Not yet specified

2. Materials and Methods

Retrospective observational study was conducted in B.J. Medical college, Ahmedabad, Gujarat from august 2019 to January 2020 (6 months). Total 153 cases were analyzed. History and clinical findings were. ultrasonographic evaluation was done in all patients. The clinical fiindings ultrasonographic findings were correlated. Histopathology examination reports were correlated with sonographic reports.

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Clinical dimension of menstrual cycle and menses	Term	Normal limits (5th -95th percentiles)
	Frequent	<24 days
Frequency	Normal	24-38 days
	Infrequent	>38 days
	Absent	No bleeding
Regularity: cycle to cycle variation over 1 year(days)	Regular	Variation(+/- 2-20)
	Irregular	Variation >20 days
	Prolonged	
	Prolonged	>8.0 days
Duration of flow	Normal	4.5-8.0days
	Shortened	<4.5 days
	Heavy	>80ml
Volume of monthly blood loss	Normal	20-80ml
	Light	<20ml

2.1. Inclusion criteria

1. Women in perimenopausal age group with complaint of AUB were included.
2. Women who underwent surgical intervention i e hysterectomy were included.

2.2. Exclusion criteria

1. Patient wanted medical management were excluded
2. Patient who under went hysterectomy for reason other than AUB were excluded (eg: endometriosis, mental retardation).

3. Results

153 women who underwent hysterectomy in them relation between Age and Parity was compared. Maximum patients are in between 40 and 45 years of age group (67.9%). It also depicts that chances of AUB increases with Parity.

Table 1: Distribution of parity and age(n=153)

Parity	Years			Total
	40-45	45-50	>50	
0	3	1	0	4
1	12	2	0	14
2	24	2	0	29
3	28	9	5	42
>=4	37	21	6	64
Total	104	36	13	153

Majority of patients decides to undergo surgical intervention after 3-6 months of menstrual problem and menorrhagia is dominant symptom. In Indian population they either prefer medical management or donot take any treatment at all.

Histopathology reports of myometrium were suggestive fibroid 74 (48.36%), adenomyosis 42 (27.45%), and

Table 2: Distribution of duration and menstrual complaints(n=153)

Complaint	Duration(month)				Total
	<3	3 to 6	6- to 12	>12	
Menorrhagia	13	38	9	8	68
Polymenorrhoea	10	11	4	3	28
Metrorrhagia	5	16	6	3	30
Menometrorragia	4	9	2	2	17
Post-menopausal	4	4	2	0	10
Total	36	78	23	16	153

Table 3: Ultrasonography finding (n=153)

Diagnosis	Percentage(%)
Fibroid	76 (49.67)
Bulky uterus	31 (20.26)
Adenomyosis	28 (18.30)
Thickened endometrium	12 (7.84)
Endometrial Polyp	4 (2.61)
Malignancy	2 (1.30)

Majority were diagnosed to have fibroid.

normal myometrium 35 (22.87%). Ultrasonographically 76 fibroid uterus were diagnosed, out of which 69 were confirmed by histopathology, and 7 were adenomyosis. USG diagnosed 28 cases with adenomyosis out of which 26 were confirmed by HPE. USG diagnosed 31 cases as having bulky uterus, which were clinically diagnosed as AUB, in which histopathology report were suggestive of normal myometrium in 18 cases, adenomyosis in 7, and leiomyoma in 3 cases. 72 cases had hyperplastic endometrium in histopathology report, only 11 were detected in ultrasonography.

4. Discussion

Abnormal uterine bleeding is leading cause of hysterectomy in Perimenopausal women. In this study 153 perimenopausal women who underwent hysterectomy were evaluated. Majority of the women were between 40 to 45 years of age with higher parity and most common symptom was Menorrhagia (44.44%). The study of Jetley et al.[6] and Shobha,[7] in which clinical presentation as menorrhagia in AUB evaluation revealed 46.4% and 46.6%, respectively is comparable to this study.

Ultrasonography is more sensitive for detection of uterine fibroid and less sensitive for Adenomyosis. Whereas, specicificity to diagnose Adenomyosis is comparatively better.

Maximum patient had undergone surgical treatment after suffering for 3 to 6 month (54.98%) which is similar to the study of Kathuria and Bhatnagar (50%).[8]

Out of 76 ultrasonographic diagnosed uterine fibroid was 76 (49.67%) 69 were confirmed on histopathology report,

Table 4: Distribution w.r.t. ultrasonography findings and bleeding pattern

USG finding	Menorrhagia	Polymenorrhia	Metrorrhagia	Menometrorrhagia	Postmenopausal
Fibroid	32	16	13	13	2
Bulky Uterus	14	6	9	2	0
Adenomyosis	19	3	4	2	0
Thickened endometrium	3	3	2	2	4
Polyp	-	-	2	-	2
Malignancy	-	-	-	-	2

Table 5: Histopathological examination in relation to ultrasonography diagnosis

USG Findings	HPE findings						
	Myometrium			Endometrium			
	Nor mal	Leomyomatous changes	Adenomyomatous changes	Proliferative	Secretory	Hyperplastic	Endometrial polyp
Fibroid uterus (n=76)	-	69	7	13	16	32	-
Bulky uterus (n=31)	18	3	7	3	7	18	-
Adenomyosis (n=28)	-	2	26	7	3	10	-
Thickened endometrium (n=12)	12	-	2	-	-	11	-
Endometrial polyp (n=4)	4	-	-	-	-	-	4
Malignancy (n=2)	1	-	-	-	-	1	-
Total	35	74	42	23	26	72	4

Table 6: Histopathological examination in relation to ultrasonography diagnosis

USG Findings	HPE findings					
	Endometrium			Cervix		
	Atrophic	Inflammatory	Carcinomatous	Normal	Inflammatory	CIN
Fibroid uterus (n=76)	4	-	-	34	42	-
Bulky uterus (n=31)	-	2	1	13	18	-
Adenomyosis (n=28)	-	-	-	9	19	-
Thickened endometrium (n=12)	-	-	1	5	9	-
Endometrial polyp (n=4)	-	-	-	3	1	-
Malignancy (n=2)	-	-	-	1	-	1
Total	4	2	2	65	89	1

Table 7:

USG findings	Present	Absent	Total	HPE report Sensitivity (%)	Specificity (%)	PPV (%)	NPV (%)
Fibroid Present	69	7	76	93.24	91.13	90.78	93.50
Absent	5	72	77				
Adenomyosis Present	26	2	28	61.9	98.19	92.85	87.2
Absent	16	109	125				

and remaining 7 were adenomyosis. The sensitivity of USG for the diagnosis of uterine fibroid is 93.24%, and the specificity is 91.13%, which is comparable to Dueholm et al.[9]

Among 42 cases of Adenomyosis which were diagnosed in histopathology report, only 26 were detected by ulrasonography. Sensitivity of ultrasound for diagnosis of Adenomyosis is low (61.9%), but specificity is same as compared to the studies of Siedler et al, Ascher et al, and Atri et al.[10–12] Hence, tissue characterization can be cosidedered as limitation of USG in diagnosis of adenomyosis.

5. Conclusion

Leiomyoma is major cause of abnormal uterine bleeding for which hysterectomy is done. Clinical, sonography and histopathological findings correlated well for diagnosis of fibroids. As sensitivity of USG to diagnose Adenomyosis is low therefore, USG alone cannot rule out the diagnosis other modalities should be considered if clinical findings were consistent with Adenomyosis.

6. Source of Funding

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7. Conflict of Interest

None.

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