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Clinico-Pathological Correlation of Hysterectomy Specimens for Abnormal Uterine Bleeding in Peri Menopausal Women

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Abstract
Background: *Abnormal Uterine Bleeding (AUB) - a term used to describe any type of bleeding that does not fall within the normal ranges for amount, frequency, duration, or cyclicity. The most common presentations are menorrhagia, polymenorrhoea, metrorrhagia, and intermenstrual bleeding. AUB during premenopausal period poses a diagnostic challenge to clinician and pathologist, as early diagnosis and treatment depends on that.*
Aims and Objectives: *To Correlate clinical and histopathological pattern in women with peri menopausal bleeding by studying hysterectomy specimens.*
Material and Methods: *After obtaining institutional Ethical Committee approval and written informed consent, hysterectomy specimens of 200 patients with abnormal uterine bleeding were studied for histopathological examination during the period of December 2014to December 2016.*
Results: *Mean age of cases was 41.2 ±6.8 years. Majority of the cases of peri menopausal uterine bleeding was in age group of 45 – 55 years (61 %). Disuterine bleeding, Fibroid, DUB with PID was commonest indications for which hysterectomy was indicated. Non Descent Vaginal Hysterectomy was commonest hysterectomy procedure performed (64 %). The most common histopathological finding was leimyoma found in 36.5 % of cases, followed by adenomyosis which was found in 13.5 % cases.*
Conclusion: *Leiomyoma are the most common benign conditions found in hysterectomy specimens with peak incidence at 45-55 years. Histopathology is mandatory for confirming diagnosis and ensuring optimal management.*

INTRODUCTION

Perimenopause is the period preceding menopause by 3-4years and followed by 1year of amenorrhoea from the final menstrual period. It is characterized by menstrual irregularities and increasing months of amenorrhoea [1] .In the recent past, perimenopause has been recognized and addressed as a biologic process distinct from menopause. However, a better practical definition is the phase preceding the onset of menopause, generally occurring around 40-50 years of age (beginning at age 47.5, lasting for 4 years) during which the regular cycle of a woman transitions to a pattern of irregular cycles Perimenopause may serve as an ideal time for improvement of health screening, recognition of otherwise silent diseases and motivation for a healthier life style for the rest of the patient's life [2]. Menopause occurs at an average age of 51.4 yrs with a range from 40-58yrs. Age of onset of perimenopause in more than 95% women is 39-51 years and the duration is 2-8yrs in more than 95% women. Therefore, we focus on the age group 39 – 59 yrs.

Abnormal Uterine Bleeding (AUB)-a term used to describe any type of bleeding that does not fall within the normal ranges for amount, frequency, duration, or cyclicity. The most common presentations are menorrhagia, polymenorrhoea, metrorrhagia, and intermenstrual bleeding. Abnormal uterine bleeding occurs in 9 to 14 percent of women between menarche and menopause, significantly impacting quality of life and imposing financial burden [3].

The two most important underlying pathology of AUB are leiomyoma and adenomyosis. Adenomyosis, which is a benign uterine disease defined as the downward growth of endometrial basal layer into the myometrium. Although various methods such as ultrasound scan and magnetic resonance imaging have shown high levels of accuracy for the noninvasive diagnosis of adenomyosis. Hysterectomy and microscopic evaluation of the samples are still the only ways of definite diagnosis of adenomyosis [4,5].

Patients with a history of anovulation, obesity, hypertension, diabetes, and exogenous estrogen use are at an increased risk for hyperplasia and adenocarcinoma. Early evaluation in the perimenopausal and postmenopausal women is essential to confirm the exact nature of the lesion and to rule out malignancy [6,7].

AIMS AND OBJECTIVES
To Correlate clinical and histopathological pattern in women with peri menopausal bleeding by studying hysterectomy specimens.

MATERIAL AND METHODS
After obtaining institutional Ethical Committee approval and written informed consent, hysterectomy specimens of 200 patients with abnormal uterine bleeding were studied for histopathological examination during the period of December 2014 to December 2016.

Method of collection of data
The data for prospective study will be obtained from requisition with tissue specimens received with 10% formalin. After adequate fixation the specimens will be subjected for gross examination. After tissue processing, 3-5 micron thick sections will be taken and stained with haematoxylin and eosin and special stains whenever necessary.

Study Period:
Two year prospective study from December 2014 to December 2016.

Inclusion Criteria
1. All hysterectomy specimens from perimenipausal women with abnormal bleeding
2. Age group within 35 to 56 years

Exclusion Criteria
1. Hysterectomy specimens from women with systemic causes of bleeding
2. Pregnancy related causes
3. Abnormal cervical cytology
4. Trauma, foreign body etc.

Sample Size
Based on previous studies and statistical formula , a sample size of 200 was determined with an alpha error of 0.05 and power of 0.95 .

Statistical Methods
In the statistical analysis of our study , Continuous variables were presented as mean for parametric data and median if the data is non parametric or skewed. Student t test was applied for calculation of statistical significance whenever the data followed normative distribution. Mann whitney test was applied whenever data followed non normative distribution . Categorical variables was expressed as frequencies and percentages. Nominal categorical data between the groups was compared using Chi-square test or Fisher's exact test as appropriate. $P < 0.05$ was taken to indicate a statistically significant difference. Minitab version 17 was used for computation of statistics.

RESULTS
Table.1. Age profile of the study group

AGE	NO. OF CASES	PERCENTAGE
35 – 45	69	34.50%
45 – 55	122	61.00%
55 – 65	8	4.00%
Above 65	01	0.50%

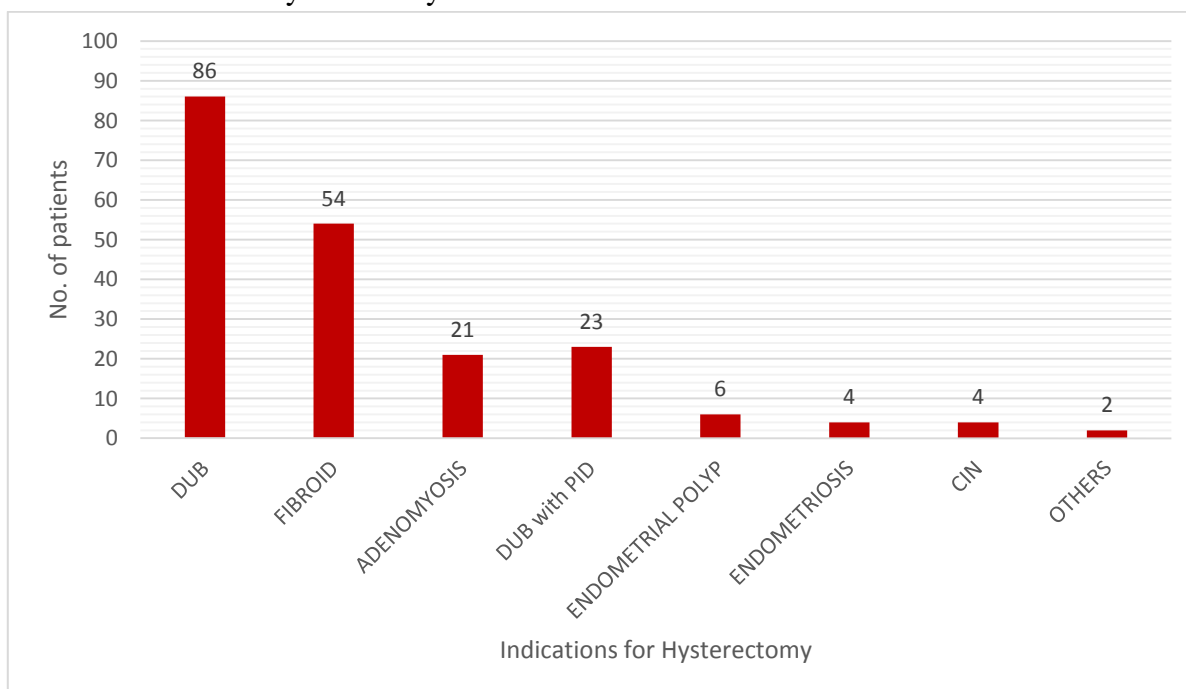**Diagram . 1.** Age profile of the study group
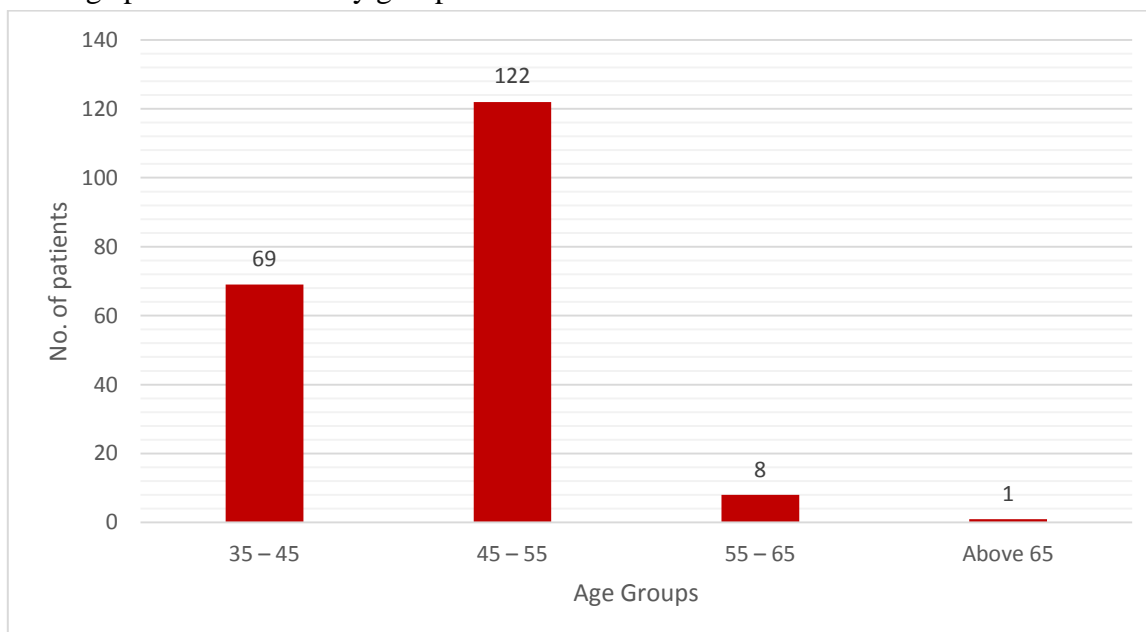
Table.2. Indications for Hysterectomy

INDICATION	NUMBER	PERCENTAGE
DUB	86	43.00%
FIBROID	54	27.00%
ADENOMYOSIS	21	10.50%
DUB with PID	23	11.50%
ENDOMETRIAL POLYP	6	3.00%
ENDOMETRIOSIS	4	2.00%
CIN	4	2.00%
OTHERS	2	1.00%

Diagram.2. Indications for Hysterectomy

Table.3. Types of Hysterectomy

TYPES OF HYSTERECTOMY	NUMBER	PERCENTAGE
NDVH	128	64.00%
NDVH WITH BSO	6	3.00%
NDVH WITH RIGHT SO	8	4.00%
NDVH WITH LEFT SO	11	5.50%
TAH	21	10.50%
TAH WITH BSO	11	5.50%
TAH WITH RIGHT SO	8	4.00%
TAH WITH LEFT SO	6	3.00%
RADICAL HYSTERECTOMY	1	2.00%

Diagram.3. Types of Hysterectomy
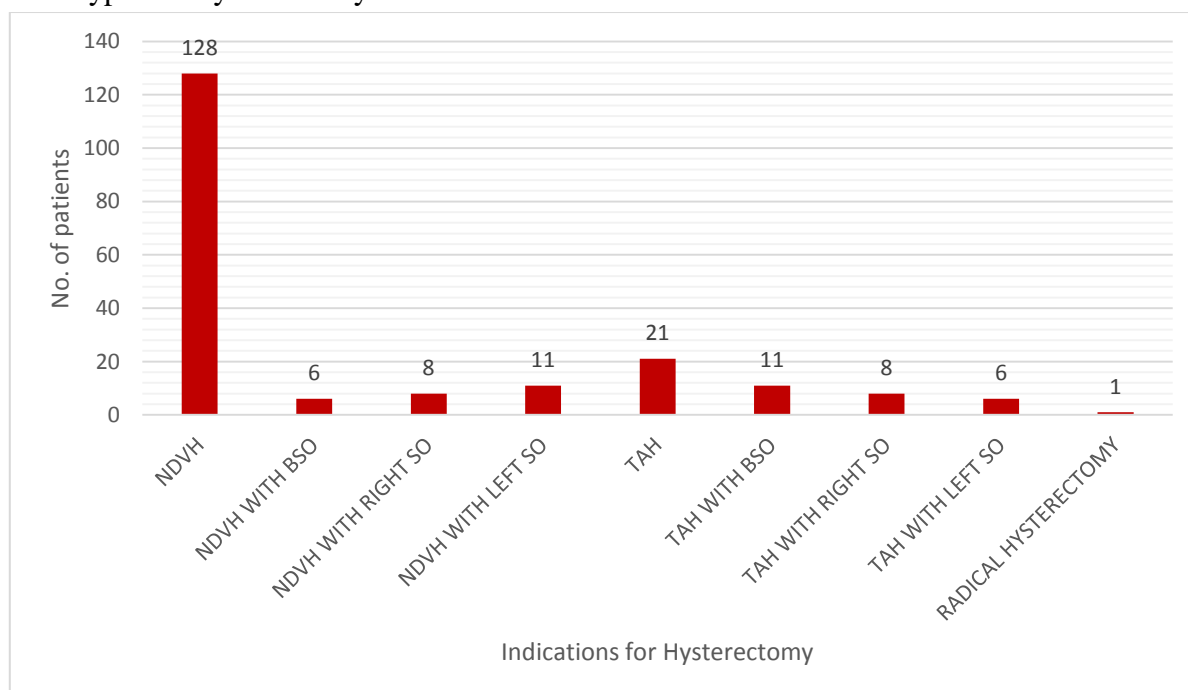
Table.4. Histopathological Diagnosis

HISTOPATHOLOGICAL DIAGNOSIS	NUMBER	PERCENTAGE
Fibroid	73	36.50%
Adenomyosis	27	13.50%
Combined leiomyoma &adenomyosis	8	4.00%
Endometrial hyperplasia	18	9.00%
Endometrial polyp	6	3.00%
Atrophic endometrium	6	3.00%
Ovarian cyst / tumour	3	1.50%
CIN	4	2.00%
Endometrial Carcinoma	1	0.50%
No significant pathology	54	27.00%

Diagram.4. Histopathological Diagnosis
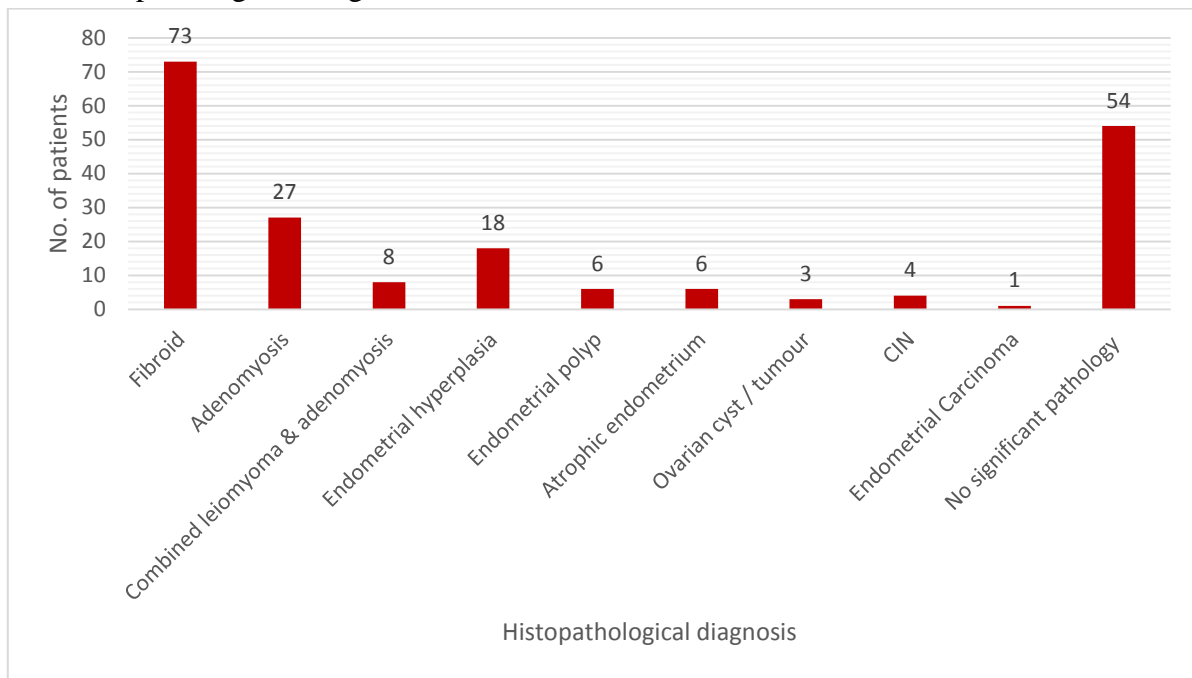
DISCUSSION

In our study, mean age of cases was 41.2 ±6.8 years. Majority of the cases of peri menopausal uterine bleeding was in age group of 45 – 55 years (61 %).In a similar study by Yogesh Neena et al , maximum cases (54.16 %) were in 45 – 55 years[8]. In study by Talukdar B et al, 67.97% of patients were in in age group of 45 – 55 years [9]. Thus age group of 45 – 55 seems to be most vulnerable age group for uterine bleeding in peri menopausal women.

In our study, Disuterine bleeding, Fibroid, DUB with PID was commonest indications for which hysterectomy was indicated. In a study by Yogesh Neena et al, Disuterine bleeding , Fibroid and Adenomyosis constituted commonest indication for hysterectomy.

In our study, Non Descent Vaginal Hysterec-tomy was commonest hysterectomy procedure performed (64 %). In a study by Yogesh Neena et al, NDVH constituted 65. 97 % cases. The most common histopathological finding was leimyomafound in 36.5 % of cases, followed by adenomyosis which was found in 13.5 % cases. In our study, The leiomyoma ranged in number from one to seven. A single leiomyoma was seen in 62 % cases and Multiple leiomyomas were seen in 38 % cases. In a study by Yogesh Neena et al, the

most common histopathological finding was leiomyoma found in 71 cases, followed by adenomyosis which was found in 35 cases. The leiomyoma ranged in number from one to six. A single leiomyoma was seen in 35 cases. Multiple leiomyomas were seen in 36 cases.

In a study by Ravindra et al in 120 perimenopausal women with abnormal uterine bleeding , Fibroid uterus, DUB, and adenomyosis and were the common causes of abnormal uterine bleeding [10].

In a similar study, Khreisat *et al*. reported that adenomyosis is a common finding in hysterectomy specimen. They found nearly 37% of all the specimens proved to be adenomyosis whereas the second most common finding was fibroid uterus.

In their study, Sajjad *et al*. observed 39% cases of leiomyomas, followed by adenomyosis in 19% cases. 5% cases showed dual pathology consisting of both leiomyomas and adenomyosis.[12].

Gupta *et al*. in their study observed that menorrhagia was the most common complaint and fibroid uterus was responsible for AUB in 53% of women [13].

Perveen and Tayyab reviewed 54 elective abdominal hysterectomies and revealed that menstrual disturbance/ DUB is a leading

indication (27.7%) of hysterectomy and leiomyoma is the commonest (59. 2%) pathological lesion [14].

Most cross national studies also showed leiomyomas as the most common pathological lesion with a variable frequency. Its incidence is 25.8% in Abbah City of Saudi Arabia, 78% in the USA, 48% in Nigeria, and 8% in Sweden. Genetical and racial influences are thus apparent on the prevalence of uterine leiomyoma [15,16].

CONCLUSION

Leiomyoma are the most common benign conditions found in hysterectomy specimens with peak incidence at 45-55 years. Histopathology is mandatory for confirming diagnosis and ensuring optimal management.

Limitation of The Study

Duration of surgery and blood loss were not considered in our study.

Ethical committee approval

Taken

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Nil

Conflicts of interest

There are no conflicts of interest

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