



**ORIGINAL RESEARCH PAPER**

**Pathology**

**HISTOPATHOLOGICAL STUDY OF HYSTERECTOMY SPECIMENS WITH ABNORMAL UTERINE BLEEDING IN A TERTIARY CARE HOSPITAL.**

**KEY WORDS:** Abnormal uterine bleeding, Leiomyoma, Hysterectomy, histopathological examination of hysterectomy specimen, peri-menopausal women

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**ABSTRACT**

**Aims and Objectives :** This study aims to analyse in detail about the distribution and causes of AUB. The study also aims at identifying various histopathological patterns of endometrial, myometrial, cervical and ovarian lesions in cases presented as AUB. **Introduction:** Abnormal uterine bleeding (AUB) is one of the most frequently encountered gynecologic complaints and the most common cause of hysterectomy in perimenopausal woman. Hysterectomy is the definitive treatment for abnormal uterine bleeding when medical and other conservative approaches fail or after the female has completed her family. Histopathology is essential to confirm the common causes and identify rare causes and to rule out malignancy. **Materials and Methods:** This is a retrospective study conducted in the department of Pathology, Acharya Shri Chandra College of Medical Sciences and Hospital, Jammu. This study included 102 hysterectomy cases. The duration of the study was from September 2022 to December 2023. **Results:** Of the 102 cases, Total abdominal hysterectomy was the most common surgery. The age varied from 21 to 60 with fifth decade as the most common age. Histopathology revealed leiomyoma as the most common diagnosis. **Conclusions:** Histopathological examination remains the gold standard diagnostic tool in the evaluation of AUB which may reveal various endometrial patterns ranging from normal endometrium to malignancy.

**INTRODUCTION**

Abnormal uterine bleeding (AUB) is a very common gynecologic complaints and also the most common reason for hysterectomy in perimenopausal woman. Oftenly >70% of all gynecological consultations in the peri- and post-menopausal age group are due to this complaint. [1] AUB also affects 14-25 % of women in reproductive-age group.

AUB is defined as a set of symptoms that include heavy menstrual bleeding involving blood loss of more than 80mL during menstruation or more than 7 days duration than normal, inter -menstrual bleeding or metrorrhagia where bleeding occurs frequently and irregularly between menses, and meno-metrorrhagia, which is a combination of heavy and prolonged menstrual bleeding. (2)

Abnormal uterine bleeding is further divided into acute and chronic category. The term Acute AUB is used when there is excessive bleeding that requires immediate intervention in order to prevent further blood loss. Acute AUB can either occur on its own or superimposed on chronic AUB, which is , irregularities in menstrual bleeding for most of the time in the previous 6 months. [3]

The prognosis for AUB is favorable but also, it depends on the etiology. While evaluating and treating chronic AUB , the goal is to rule out serious conditions such as malignancy and improve the patient's quality of life. Prognosis also varies , based on medical and surgical treatment. In many cases, non-hormonal treatment with anti-fibrinolytic and NSAIDs has been shown to reduce blood loss by up to 50% [4]

The International Federation of Gynaecology and Obstetrics has created a categorization system known as PALM-COEIN for causes of AUB in non-gravid women. There are nine major

categories organised according to the acronym PALM-COEIN: Polyp, Adenomyosis, Leiomyoma, Malignancy and Hyperplasia, Coagulopathy, Ovulatory dysfunction, Endometrial, Iatrogenic, and not yet are the terms used to describe these conditions. (5)

Hysterectomy is the definitive treatment for abnormal uterine bleeding at the time when medical and other conservative approaches fail to reduce the blood loss or after the female has completed her family. Histopathology is gold standard to confirm the cause and to rule out malignancy. [6]

Charles Clay is known to perform the first sub-total hysterectomy in 1843 and the first total hysterectomy in 1929 in England [7]. The indications of gynaecological hysterectomy are uterine fibroid, adenomyosis , uterine prolapse , abnormal uterine bleeding, prophylaxis against uterine cancer, malignancy , etc. [8].

At the same time we can say that, hysterectomy is a surgery which is known to be used and misused, underused, and abused at different times in gynecology (9) Therefore, the clinical indications to perform this major surgery should always be justified as it has a strong psychological, emotional, medical, hormonal and sexual effect on a women's life (10)

**MATERIALS AND METHODS**

This is a retrospective study conducted in the department of Pathology, Acharya shree Chandra college of medical sciences and hospital, sidhra, Jammu. This study included 102 hysterectomy specimens sent to the department of Pathology. The duration of the study was from September 2022 to December 2023. A total of 102 hysterectomy specimen of women presenting with AUB was included in the study. Histopathological examination was done in all cases.

The hysterectomy specimens were fixed in 10% formalin. The gross specimens were examined for the location, number, changes in leiomyoma and associated pathologies. Representative sections were taken which were processed in tissue processor and embedded in paraffin wax. The sections were cut at 4-6µ with microtome, stained with Hematoxylin and Eosin stain, examined under light microscopy.

**RESULTS**

We analysed that all the 102 patients were between age group 21 to 60. Further , we found out that majority of the patient with abnormal uterine bleeding were between the age group 41 to 50. Also , the second highest no. of patients were between the age group 31 to 40 years.

The tabular form of the data regarding age of the patients is given below:

Age group in years	Number of cases	Percentage (%)
21-30	11	10.78 %
31-40	30	29.42 %
41-50	41	40.19 %
51-60	20	19.61 %
Total	102	100 %

Further, we grouped the specimens on the basis of types of Hysterectomy, we found out that the most common type of hysterectomy performed was total abdominal hysterectomy with bilateral salphingo- oophorectomy. The tabular form of data is given below:

Types of hysterectomy	No. of cases	Percentage %
Total abdominal hystectomy with bilateral salphingoophorectomy	47	46.07 %
Total abdominal hystectomy	37	36.27 %
Total abdominal hystectomy with unilateral salphingoophorectomy	8	7.84 %
Vaginal hysterectomy	6	5.89 %
Radical hysterectomy	3	2.95 %
Subtotal hysterectomy	1	0.98

Finally we noted the underlying cause of these hysterectomies according to the histopathological reports of specimens. The diagnosis were mainly adenomyosis, leiomyoma, endometrial polyp, endometrial adenocarcinoma, endometrial hyperplasia, atrophic endometrium, chronic endometritis, retained products of conception, mature teratoa and serous cystadenoma.

We found out that the most common cause of hysterectomy was Leiomyoma which was the diagnosis in 46.07% of the cases. Also, the 2<sup>nd</sup> most common diagnosis was adenomyosis with leiomyoma with 16.67% of the cases. Adenomyosis alone as a diagnosis was seen in 9.8% of the cases. The tabular form of the data is given below:

HPE Diagnosis	No. of Cases	Percentage (%)
Adenomyosis	10	9.80 %
Adenomyosis and Leiomyoma	17	16.67 %
Leiomyoma	47	46.07%
Endometrial polyp	9	8.82 %
Endometrial hyperplasia	6	5.88%
Endometrial adenocarcinoma	1	0.98 %
Atrophic Endometrium	4	3.92%
Chronic Endrometritis	3	2.94 %
Retained Products of Conception	2	1.96 %
Mature Terotoma	1	0.98 %
Serous Cystadenoma	2	1.96%
Total	102	100%

Further we grouped, the types of endometrial hyperplasia into simple hyperplasia without atypia, simple hyperplasia

with atypia, complex hyperplasia with atypia and cystoglandular hyperplasia.

Out of the 6 cases , 4 cases were of simple hyperplasia witout atypia.

The tabular form of data is given below:

	No of Cases	Percentage %
Simple hyperplasia without atypia	4	66.66%
Simple hyperplasia with atypia	1	16.67 %
Complex hyperplasia with atypia	1	16.67 %
Cystoglandular hyperplasia	0	0%
Total	6	%

**DISCUSSION**

Abnormal uterine bleeding is a mainly broad term which may be defined as any type of bleeding which does not fall under the normal range for amount, frequency, duration or cyclicity.(11)

AUB is a well known major cause of gynaecological morbidity, though the data for prevalence of AUB is very limited. Approximately, 9-14% of women in reproductive age group have blood loss exceeding 80 ml and AUB is a primary indication for hysterectomy.(12)

Leiomyoma, also called as fibroid, is the most common benign tumor of uterus that affects 5-20% women of reproductive age group. This tumor arises from smooth muscle cells of myometrium[13] The growth of fibroid is primarily dependent on the levels of circulating estrogen. Information regarding the pathogenesis of fibroids is not very well understood. Fibroids can either be asymptomatic and present as incidental finding on imaging, or can be symptomatic. The common symptoms are usually abnormal uterine bleeding, pelvic pain, disruption of surrounding pelvic structures (bowel and bladder), and back pain.[14]

In our study we found out that out of the 102 cases , the most common cause for hysterectomy according to the gross and microscopic findings was uterine leiomyoma. It was reported in 47 cases out of 102. Also, in around 17 cases, there is co existence of Leiomyoma and Adenomyosis at the same time in one specimen. Whether the AUB were due fibroid or adenomyosis ,it couldn't be determined. So, in total we can say that there were 64 cases of AUB for which hysterectomy had to be done ,which had a finding of fibroid on histopathology. Therefore, percentage of leiomyoma occurring in patients of AUB is 62.7%, which is a significant number.

The 3<sup>rd</sup> most common diagnosis was adenomyosis which was found individually in 10 cases out of 102.

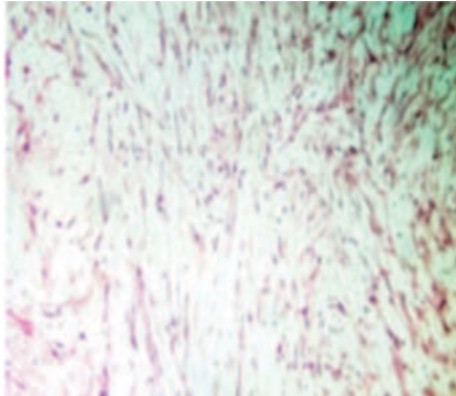
Adenomyosis is a gynecologic condition in which ectopic endometrial tissue is found within the uterine myometrium. It was First described in 1860 by the German pathologist Carl von Rokitansky, it was then termed as cystosarcoma adenoids uterinum [15] Risk factor for adenomyosis include mainly conditions which lead to increased estrogen exposure like in increased parity, early menarche, short menstrual cycles, elevated BMI, oral contraceptive pill use and tamoxifen use. Other common risk factor is if the patient has had prior uterine surgery like dilation and curettage, cesarean section, myomectomy, etc.[16]

Hysterectomy is the most common major gynecological surgery performed in the world for diseases like leiomyoma, adenomyosis, prolapse and dysfunctional uterine bleeding (DUB) [17]

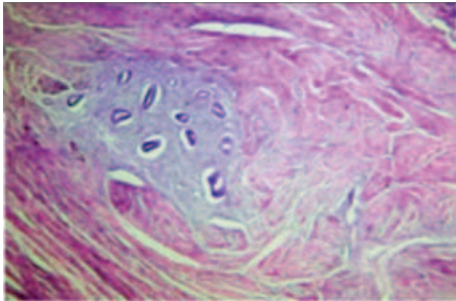
Next to adenomyosis, endometrial polyp was also comparatively frequent finding with 8.82% of cases. Other

diagnosis were endometrial hyperplasia, atrophic endometrium, chronic endometritis, retained products of conception, mature teratoma, serous cystadenoma and malignancy.

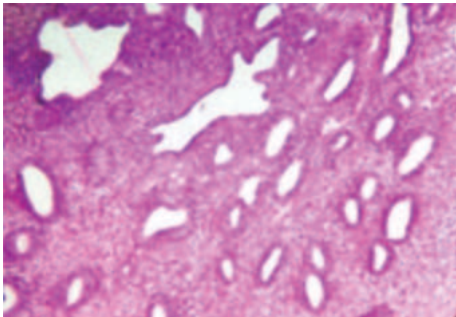
The most common age group of patients was between 41 to 50 and the second most common age group was between 31 to 40.



**Figure 1: Leiomyoma**



**Figure 2 : Focal Adenomyosis**



**Figure 3: Disordered Proliferative Endometrium**

**CONCLUSION**

From the above study we conclude that AUB may also lead to undue disruption in daily activities of women and serious medical consequences. Thus, specific diagnosis leading to the cause of AUB and prompt management in early stages can reduce patient's morbidity.

Hysterectomy is an ultimate treatment for AUB but decision for hysterectomy in reproductive age group is still a challenge for the patient. For a benign histopathology like fibroid ,effective non-surgical management options are now available. So precision in pre-operative diagnosis is of utmost importance before embarking on hysterectomy.

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