e-ISSN: 0975-1556, p-ISSN:2820-2643

Available online on www.ijpcr.com

International Journal of Pharmaceutical and Clinical Research 2023; 15(5); 689-694

Original Research Article

Analysis of Histopathological Findings in Hysterectomy Specimens of Women with Menorrhagia across Various Age Groups

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Received: 06-03-2023 / Revised: 30-03-2023 / Accepted: 30-04-2023
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Conflict of interest: Nil

Abstract

Background: Heavy menstrual bleeding significantly impairs the quality of life of many healthy women. Sixty percent of these patients develop Anemia. Perception of heavy menstrual bleeding is subjective, and management usually depends upon what symptoms. Surgical options include conservative surgery (uterine resection or ablation) and hysterectomy. Menorrhagia is usually associated with benign pathologies and only rarely with malignancy.

Aim: Aim of this study to identify the different pathological condition in hysterectomy specimen of patients that present with history of menorrhagia.

Material and Method: Descriptive study was done on 73 hysterectomy specimens in pathology department of tertiary care center of histology section. Patents with history of menorrhagia and abnormal uterine bleeding included in study. The specimens were grossed by the pathologists in pathology and processed, stained with H &E and examined microscopically.

Result: In this study the age group of patients was 31 to 70 years of age. 47.9% (n=35) presented with complaints of menorrhagia between 41-50 years of age group. 41% (n=30) were from 31-40 years age group. Out of 73 cases, 38% cases (n=28) showed leiomyomas, followed by adenomyosis in 13.6% cases (n=10), 20% cases (n=15) showed dual pathology consisting of both leiomyomas and adenomyosis. Maximum no. of lesion showed was leiomyomas (n=12) in 41-50 years of age group then (n=12) in 31-40 years of age group.

Conclusion: In conclusion, the analysis of histological patterns in menorrhagia cases revealed leiomyomas as the most common pathology, followed by adenomyosis. Coexistence of both leiomyomas and adenomyosis was also observed. These findings highlight the significance of a comprehensive histopathological evaluation in the management of menorrhagia, enabling tailored treatment approaches based on individual patient needs. Further research is required to expand our knowledge of the underlying mechanisms and refine diagnostic and therapeutic strategies for this common gynecological concern.

Keywords: Leiomyomas, Menorrhagia, Hysterectomy, Histopathology.

Introduction

Menorrhagia is a prevalent gynecological condition that affects a significant proportion of women in their reproductive age in India and other developing countries. Approximately 1-5 women in this age group experience excessive menstrual bleeding, with 9-14% losing over 80 ml of blood per cycle.

In medical terms, menorrhagia is characterized by regular menstrual cycles that have a prolonged duration of more than 7 days and excessive flow, exceeding 80 ml of blood loss per cycle. [1] The World Health Organization (WHO) has reported that severe bleeding over a period of three months is prevalent in 8-27% of women [2]. Although not life-threatening, menorrhagia can have a significant impact on the personal, social, family, and work lives of affected women, leading to a reduced quality of life.[3]

Women often describe the impact of menorrhagia on their daily activities and quality of life as more important than the actual volume of bleeding [4]. It is important to note that menorrhagia can be caused by various underlying medical conditions, such as hormonal imbalances, uterine fibroids, adenomyosis, or endometrial polyps. Therefore, early diagnosis and appropriate treatment of the underlying cause are essential in managing menorrhagia.

The treatment options for menorrhagia depend on the underlying cause and severity of the condition. These may include hormonal therapy, nonsteroidal anti-inflammatory drugs (NSAIDs), or surgical interventions such as endometrial ablation or hysterectomy. It is crucial for women experiencing menorrhagia to seek medical attention promptly to ensure appropriate diagnosis and treatment, thereby improving their overall health and quality of life.

Aims and Objective

Aim of this study to identify the different pathological condition in hysterectomy specimen of patients that present with complain of menorrhagia and frequency of distribution of different uterine lesions in patients present with history of menorrhagia, in different age group.

Material and Method

Descriptive study was carried out in pathology department of tertiary care center India During the study duration, which spanned from March 2022 to February 2023, a total of 73 patients between the ages of 31 and 70 years were enrolled. Hysterectomy specimens received by our department during this period were eligible for inclusion in the analysis.

Relevant clinical data, including age, reproductive status, medical history of menorrhagia, clinical diagnosis, and details of surgical intervention, were extracted from the patients' medical records. History of known and suspicious cases of malignancy were excluded in this study. The specimens were grossed by the pathologists in the pathology department.

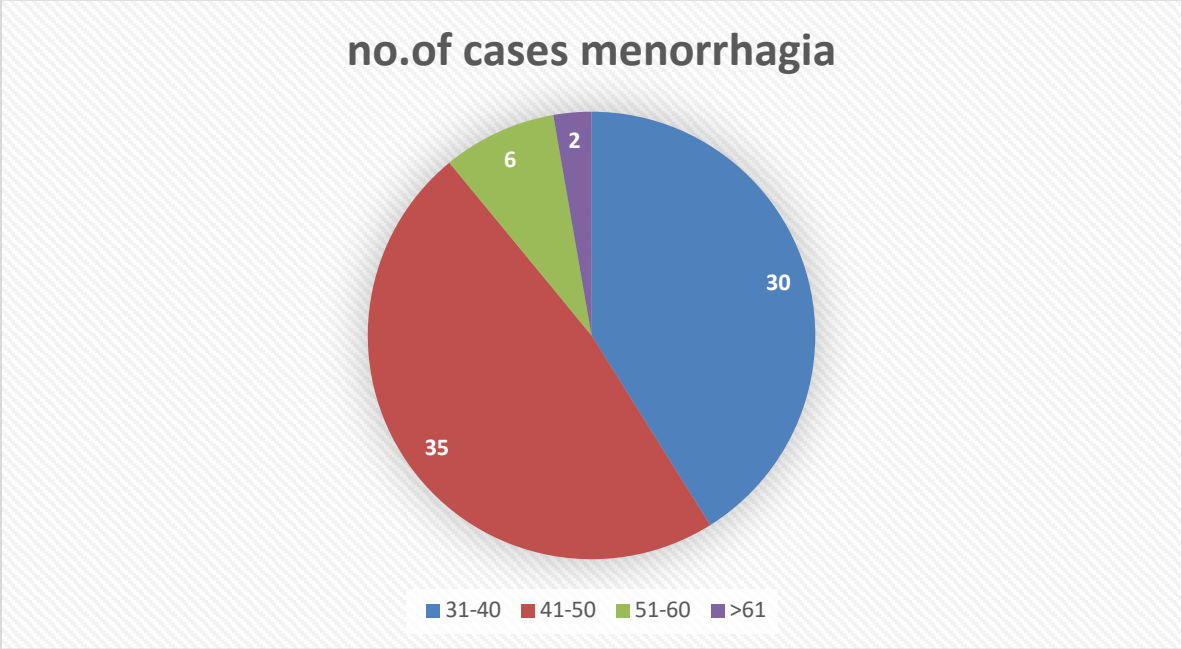
The surgical specimens were processed by obtaining At least two sections were obtained from the cervix, two sections from the uterine corpus and an additional section if any gross pathology was observed. In the case of leiomyomas, one section was collected from each identified lesion. Polyps were entirely submitted for histopathological examination. All specimens were initially fixed in a 10% formalin solution and processed for paraffin embedding.

Tissue sections were then prepared by cutting them to a thickness of 3-5 μ and staining them with H&E for histological analysis. The histopathological diagnosis was determined through microscopic examination and was later compared with the clinical diagnosis.

Result

This study included patients between the ages of 31 to 70 years, with a mean age of 42.5 years. Among the patients, 47.9% (n=35) reported experiencing menorrhagia in the age range of 41-50 years. A total of 41% (n=30) of patients were in the age range of 31-40 years, 8.2% (n=6) were in the age range of 51-60 years, and 2.7% (n=2) were over 60 years of age. (graph-1)

Distribution of patients with menorrhagia based on age.



Graph 1: Age wise distribution

Among the 73 cases analyzed, 38% (n=28) exhibited leiomyomas as the primary pathology. Adenomyosis was observed in 13.6% (n=10) of the cases, while 20% (n=15) displayed a combination of both leiomyomas and adenomyosis. Additionally, 1.3% (n=1) of the cases presented leiomyoma with hyaline changes, and 2.7% (n=2) showed leiomyoma with red degeneration. Non-specific pathology was identified in 17.8% (n=13) of the cases.

Furthermore, 2.7% (n=2) of the cases were diagnosed with endometrial polyps, 5% (n=5) with endometrial hyperplasia, and 1.3% (n=1) with chronic endometritis. (Table-1)

Table 1: The distribution of histological patterns observed in cases of menorrhagia.

S.No.	Histopathological Findings	Number	Percentage
1	Adenomyosis	10	13.6
2	Leiomyoma	28	38.3
3	Leiomyoma with Adenomyosis	15	20.5
4	Leiomyoma with hyaline change	1	1.3
5	Leiomyoma with red degeneration	2	2.7
6	Leiomyoma with endometrial hyperplasia	1	1.3
7	Endometrial polyp	2	2.7
8	Endometritis	1	1.3
9	Non-Specific	13	17.8
Total		**73**	**100**

According to age wise distribution of lesion, out of 73 cases maximum no. of lesion showed was leiomyoma (n=12) in 41-50 years of age group then (n=12) in 31-40 years of age and minimum numbers (n=1) of cases of leiomyoma was found in >60 years. Leiomyoma with adenomyosis were showed (n=8) in 41-50 years of age and 31-40year of age group showed maximum cases (n=7)of non-specific pathology.(Table-02)

Table 2: The distribution of patients with menorrhagia based on age and the corresponding histological patterns observed are as follows:

S.N	Histopathological Findings	Age in Year				
1		31-40	41-50	51-60	>60	Total
2	Adenomyosis	3	7			10
3	Leiomyoma	12	14	1	1	28
4	Leiomyoma with Adenomyosis	4	8	2	1	15
5	Leiomyoma with hyaline change	0	1	0	0	1
6	Leiomyoma with red degeneration	2	0	0	0	2
7	Leiomyoma with endometrial hyperplasia	0	1	0	0	1
8	Endometrial polyp	2	0	0	0	2
9	Adenomyosis with endometritis	0	1	0	0	1
10	Non-Specific	7	3	3	0	13
Total		30	35	6	2	73

Discussion

The analysis of the data regarding the histological patterns observed in cases of menorrhagia provides valuable insights into the underlying pathologies associated with this condition. Heavy menstrual loss, one in 20 women between age 30-49 consult with her general practitioner [5]

Among the 73 cases studied all are gone for hysterectomy, most common presenting complaint 66 % in patient undergoing hysterectomy [6] strongly correlate with this previous study. Our study revealed a similar trend observed in previous studies by Mackenzie and Shaheen *et al*., where a significant proportion of patients with menorrhagia fell within the age group of 41-50 years [7,8]. This finding aligns with another study conducted by Shergill SK *et al*., which also reported a similar age group among patients undergoing hysterectomy [6]

Out of 73 of the most prevalent histological finding was leiomyomas, identified in 38% of the cases. This aligns with previous research highlighting leiomyomas as a common cause of menorrhagia. Adenomyosis, another significant pathology, was observed in 13.6% of the cases. The coexistence of both leiomyomas and adenomyosis was found in 20% of the cases, indicating a possible association between these two conditions in women experiencing menorrhagia. in the study conducted by Sajjad *et al*., they observed that leiomyomas were present in 39% of the cases, while adenomyosis was observed in 19% of the cases [9]. Furthermore, they found that 5% of the cases exhibited dual pathology, characterized by the coexistence of both leiomyomas and adenomyosis.

Similarly, in our study, we also identified dual pathology cases consisting of adenomyosis with leiomyoma, accounting for 20.5% of the cases. Additionally, we diagnosed other dual pathological lesions as the underlying cause of menorrhagia.

The findings from our study align with previous research conducted by Sarfraz *et al*., Tahira *et al*., and Khawja *et al*., which also

identified leiomyomas and adenomyosis as common causes of menorrhagia [10-12]. These studies provide further evidence of the significance of these pathological conditions in contributing to excessive menstrual bleeding.

Gupta *et al*., in their study, observed that menorrhagia was the most frequently reported complaint, and fibroid uterus was identified as the cause of abnormal uterine bleeding in 53% of women [13]. This finding emphasizes the association between fibroids and menorrhagia, highlighting the need for comprehensive evaluation and management strategies for women presenting with these symptoms.

Furthermore, international studies have consistently shown leiomyomas to be the most common pathological lesion associated with menorrhagia, albeit with varying frequencies. The incidence of leiomyomas ranged from 25.8% in Abbah City of Saudi Arabia to 78% in the USA, 48% in Nigeria, and 8% in Sweden [14-17]. These variations can be attributed to geographical and racial influences, highlighting the importance of considering regional factors when assessing the prevalence of uterine leiomyomas.

In our study, we also found leiomyomas to be the most prevalent pathology, accounting for 38.3% of women presenting with abnormal uterine bleeding. This supports the global trend of leiomyomas as a leading cause of menorrhagia. Additionally, we identified endometrial polyps in 2.7% of menorrhagia cases, which is consistent with the findings of Shah Sarfaraz *et al*. and Borgfeldt C *et al*.

Overall, our study adds to the existing body of evidence demonstrating the predominance of leiomyomas and adenomyosis as common causes of menorrhagia. The identification of these pathologies underscores the importance of accurate diagnosis and tailored management approaches to improve patient outcomes. Considering the geographical and racial variations in the prevalence of uterine leiomyomas, further research is warranted to explore the underlying factors contributing to these differences and to develop region-specific strategies for the management of menorrhagia.

Understanding the histological patterns associated with menorrhagia aids in accurate diagnosis and appropriate management of patients. Tailoring treatment strategies based on the underlying histopathology can result in improved outcomes and patient satisfaction. The sample size was relatively small, warranting further research with a larger cohort to validate these findings.

Conclusion

In conclusion, the analysis of histological patterns in menorrhagia cases revealed leiomyomas as the most common pathology, followed by adenomyosis. Coexistence of both leiomyomas and adenomyosis was also observed. These findings highlight the significance of a comprehensive histopathological evaluation in the management of menorrhagia, enabling tailored treatment approaches based on individual patient needs. Further research is required to expand our knowledge of the underlying mechanisms and refine diagnostic and therapeutic strategies for this common gynaecological concern.

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