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Original Article

Histopathological Evaluation of Excessive Uterine Bleeding of Reproductive Age Group in Hysterectomy Specimens

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Abstract:
Objective: Determine the frequencies of uterine pathologies in women of reproductive age group presenting with excessive uterine bleeding.
Material and Methods: This study was conducted in the histopathology section of the Department of Pathology at Ayub Medical College Abbottabad. This was a descriptive study of 100 hysterectomy specimens removed for excessive uterine bleeding received in the department over a period of six months. All the specimens belonging to patients of reproductive age group (30-50 years) with excessive uterine bleeding were included in this study. The data recorded from the specimen request forms included the patients' clinical presentation, reproductive history and history of hormone intake. All the specimens were received in ten-percent formalin and were examined grossly. Multiple sections 3-5 microns thick were taken, stained with haematoxylin and eosin and examined under Olympus Microscope CX23.
Result: The most common uterine lesions associated with excessive uterine bleeding were leiomyoma (43%) and adenomyosis (24%).
Conclusion: As leiomyoma is the most common lesion found in the uterus of the patients in which hysterectomy is done for excessive uterine bleeding; this is a treatable cause. As most females are in child bearing age so female of child bearing age should be investigated thoroughly before considering hysterectomy.
Key words: Hysterectomy, excessive uterine bleeding, leiomyoma, adenomyosis

Introduction

Excessive uterine bleeding is a common cause of morbidity in female of reproductive age group. A large proportion is attributed to hormonal imbalance or leiomyoma but a definitive diagnosis is required to rule out other causes.[1] Normally during menstruation about 30ml of blood is lost during a span of three to five days. Excessive uterine bleeding is clinically defined as blood loss of more than 80ml per menstrual cycle exceeding more than five days.[2] There are many causes of excessive uterine bleeding in reproductive age group, which may be uterine or extra-uterine.[3]Some of the extra uterine causes may be endocrine abnormalities, systemic illnesses. Other causes can be due uterine infections, developmental abnormalities or tumors.[4,5]The lesions in the cervix can also causes abnormal bleeding and pathologies vary from benign to malignant and include cervical erosions, cervical polyps and carcinomas[5].

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Endometrial lesions include hyperplasias, endometritis, endometrial polyps and carcinomas.[4] Myometrial lesions include leiomyomas, adenomyosis and leiomyosarcoma[1]. The pregnancy related disorders include spontaneous abortion, placenta previa, placental polyps, and gestational trophoblastic disease, etc[5,6,7].
In addition to all these causes there is another condition known as dysfunctional uterine bleeding (DUB) in which there is bleeding in the absence of organic pathology. [4,5.]

Material & Methods

This study, which was non-interventional and descriptive study, was carried out in the department of pathology in January 2016 to June 2016. A total of 100 patients were included in this study who met the inclusion criteria like all Hysterectomy specimens removed for excessive uterine bleeding in reproductive age group. The exclusion criteria were patients with Cervical, ovarian , vaginal and systemic causes of excessive P/V bleeding .

All the surgical specimens were received in 10% buffered formalin[8] along with the Performa having required information .

Gross examination was performed as per standard procedure[9]. A thorough examination of the uterine cavity and walls was performed to note both normal and abnormal areas, and thickness of the wall (cms) and the endometrium (mm) was recorded. Representative sections were taken one each from isthmus, lateral wall and fundus and from any other suspected area. The tissue was processed for paraffin embedding. From each block 5 mm thick tissue section were taken and stained for Hematoxylin and Eosin.

Results

The mean values of ages is 41.28 ± 5.15. The mean value of uterine size is 639 ± 643.96, and the mean values of uterine wall thickness and endometrial thickness are3.86 ± 2.08and 3.1 ± 1.45 respectively. Among the age groups maximum number of cases 36, (36%) belonged to 41 - 45 years age group followed by 33 (33%) cases of 36 - 40 years, which together constitute 69 (69%) cases. Among the parity groups, maximum subjects were in 5 - 8 parity group 54(54%) followed by 1 - 4 parity group which comprised 40 (40%) patients; together 1 -8 parity group constituted 94 (94%) cases and nulliparous and 9 - 12 parity groups contain 3 (3%) cases each. The table also shows the frequency of exogenous hormones use among patients. Hormones were used in 57 (57%) cases and the remaining 43 (43%) cases did not use hormones. As shown in table 1

Table – 1: Distribution of demographic data of patients by groups (n = 100)

Sr. #	Data Groups	Number of cases	% age	Cumulative percentage
1.	**Age Groups (years)**		18	18
	30 – 35	18	33	51
	36 – 40	33	36	87
	41 – 45	36	13	100
	46 – 50	13		
2.	**Parity Groups (no. of children)**	03	03	03
	Nil	40	40	43
	1 – 4	54	54	97
	5 – 8	03	03	100
	9 – 12			
3.	**Hormone Use**			
	Not Used	43	43	43
	Used	57	57	100

Out of the total of 100 cases, identifiable mass was present in 52 (52%) cases on gross examination. Grossly there were 52 (52%) cases in the no pathology group while 48 (48%) cases showed some pathology; of these, 41 (85.4%) cases were of leiomyoma, 6 (12.5%) were of endometrial polyp and 1 (2.1%) diagnosed as adenomyosis.

Table – 2: Distribution of gross uterine pathology by groups (n = 100)

Sr. #	Data Groups	Number of cases	Percentage
1.	**Presence/Absence of mass**		
	Mass present	48	48
	Mass absent	52	52
2.	**Gross diagnosis**		
	No pathology	52	52
	Adenomyosis	01	01
	Leiomyoma	41	41
	Endometrial polyp	06	06

Microscopically No pathology was detected in 14 (14%) cases10 showed proliferative phase endometrium while 4 cases showed secretory phase. . Of the remaining 86 (86%) cases, 43 (50%) cases were diagnosed as leiomyoma alone (33/43, 76.7%) or in combination with other pathologies (leiomyoma with adenomyosis 8/43, 18.6% and leiomyoma with simple hyperplasia 02/43, 4.6%), 24 (27.9%) cases were diagnosed as Adenomyosis alone (23/24, 95.8%) or in combination with other pathologies (adenomyosis with chronic endometritis 1/24, 4.2%), 7 (8.14%) cases of simple hyperplasia, 6 cases (6.97%) of endometrial polyp, 4 cases (4.65%) of chronic endometritis and 2 cases (2.32%) of endometrial carcinoma.

Table – 3: Distribution of microscopic pathology in patients (n = 100)

Microscopic diagnosis	Number of cases	%age
No pathology	14	14
Proliferative phase	10	10
Secretory phase	04	04
Leiomyoma	**43**	**43 (50)**
Leiomyoma alone	(33)	(76.7)
Leiomyoma with adenomyosis	(08)	(18.6)
Leiomyoma with simple hyperplasia	(02)	(4.6)
Adenomyosis	**24**	**24 (27.9)**
Adenomyosis alone	23	(95.8)
Adenomyosis with chronic endometritis	01	(4.2)
Simple hyperplasia	07	07
Endometrial polyp	06	06
Chronic endometritis	04	04
Endometrial carcinoma	02	02

Discussion

Menstrual disorders are in fact one of the most common reasons for consultation to gynaecologists.[10] Usually endometrial curettage is performed to find out the possible cause of bleeding such as hyperplasia, polyps, infections or tumors.[11] Excessive uterine bleeding is physically incapacitating,financially draining and socially embaracing.It is found to be more common in Pakistani females in 3rd&4th decade of life. The two age groups appear to be more involved by menorrhagia or excessive uterine bleeding due to disturbances in hormones and the development of leiomyoma/adenomyosis.

The present study shows that the most common lesion encountered were leiomyoma (43%) and adenomyosis (24%). There were 33 cases of leiomyoma alone, 8 cases in combination with adenomyosis and 2 cases in combination with simple hyperplasia. Out of 24 cases of adenomyosis,23 cases were of adenomyosis alone and one case in combination with chronic endometritis. This agrees with other national studies such as those of Ahsan.S[8]. et al from Karachi,Luqman[13] et al. from Lahore and Qazi G[12] from Peshawar.

Ahsan S et al performed a 5 year retrospective study of 143 women gone through hysterectomy in whom menorrhagia was the commonest indication for hysterectomy. In this study histopathology revealed adenomyosis and leiomyoma to be the commonest pathology. In this study adenomyosis alone was found in 30% of cases while leiomyoma in 25% of cases. Leiomyoma combined with adenomyosis as 26% of cases. All cases of adenomyosis account for 56% and all cases of leiomyoma accounts for 51% of hysterectomy specimens.

Study done by Kathikeyan et al gives the histological finding in the uteri in patients of excessive uterine bleeding showing greatest frequency of leiomyoma i.e.41 % and frequency of adenomysis alone was 15.5%.

The study done by Qazi G gives the histopathological findings in the uteri of patients who underwent cases of adenomysis and 8 cases of leiomyoma combined with adenomysis.

In this study as shown in the table 2 there were 51 (51%) patients between 41-50 years. The parity of patients showed 97 cases that were parous while three cases were multiparous. Out of 97 parous cases 40 (41.2%) were having parity up to 4 children while 57 cases (59.8%) were having more than 4 children.

History of hormone was obtained in 57(57%) cases while 43(43%) cases did not use any hormones. Regarding size of uterus (in cm^3) 55 cases (55%) had uterine sizes more than 500 cm^3 of which 7 cases (7%) had grossly enlarged uterine size of more than 1500 cm^3.

In gross examination identifiable mass was present in 48 cases (48%) out of which leiomyoma was identified in 41 cases (85.4%) endometrial polyp were identified in 6 cases (12.5%) and ademonysis as 1 case (1.1%) table 2.

On microscopic examination as shown in table 5 detected in 86 (86%) cases; leiomyoma alone and in combination with other pathologes comprised 43 cases (50%). Adenomysis alone or with chronic endometritis was present in 24 (27.9%) cases. Simple hyperplasia was present in 7% cases endometrial polyp in 6 (6%) cases, chronic endometritis in 4 (4%) cases and endometrial carcinoma in 2 (2%) cases. Leiomyoma alone (33 cases) 76.7% of total leiomyoma, and adenomysis alone (23,95.8%) of all adenomyosis together constituted the two most common microscopic pathologies, which closely resembles to the study done by sagiv R et al[9] and Farrel E[13].

Leiomyoma compared with age groups as shown in table 3 revealing 25 cases in less than 40 age group and 18 cases in above 40 age groups. Adenomyosis cases were 11 in less than 40 and 13 cases in above 40 age group. Simple hyperplasia , endometrial polyp and chronic endometritis all had 2 cases in less than 40 age group and 5 , 4 and 2 cases respectively in above 40 age group, which closely matches to the results of study done by Brenner PF[14].

The data analysis did not show significant difference of distribution in any of the variable by age groups, except parity which shows an expected association of parity with increasing age.

Conclusion

As leiomyoma is the most common lesion found in the uteri of the patients in which hysterectomy is done for excessive uterine bleeding, which is a treatable cause. As most of the females are in child bearing age so they should be investigated thoroughly before doing hysterectomy and other treatment modalities like uterine artery embolization, endometrial ablation and thermal balloon therapy.[16,17]

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