Histopathological interpretation of endometrium in abnormal uterine bleeding

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Received: May 2024. Accepted: June 2024; Published: July 1, 2024.
Citation: Nansi Dari Alfayez et al. Histopathological interpretation of endometrium in abnormal uterine bleeding. World Family Medicine. July 2024; 22(6): 6-10. DOI: 10.5742/MEWFM.2024.95257670

Abstract

Background: Abnormal uterine bleeding is an unusual and irregular uterine bleeding. It is considered one of the gynecological complications which significantly affects patients, patients family, social activities and quality of life.

Objective: to evaluate and interpret the endometrial histological findings among women with uterine bleeding.

Methods: This study was conducted in the Department of Obstetrics and Gynaecology at Prince Hashime /Az zarqa in Royal Medical Services RMS during the period 2018 to 2020. Purposive sampling technique was used to select two hundred patients diagnosed with abnormal uterine bleeding who underwent endometrial sampling after dilatation and curettage. A cohort study was used to evaluate and interpret the endometrial histological findings among women with abnormal uterine bleeding.

Results: A maximum number of cases with abnormal uterine bleeding was found in reproductive fertile age group 20 to 40 years (60.42 %) in women with parity 2-5 (90.25%). Menorrhagia was the major symptom in 76 cases and represented 35.94%, and for the secretory endometrium the highest percentage was (34.42%) of all the cases. Menorrhagia was the commonest mode of the entire age group, with 50% in the group <20 years. Metrorrhagia and metropathia haemorrhagica were higher in the reproductive age group rather than the age group >40 years.

Conclusions: The greatest percentage of abnormal uterine bleeding was found in the group of 20-40 years in multiparous women and Menorrhagia was the commonest in all age groups. The majority of the patients with secretory and proliferative endometrium had normal uterus size and normal form of endometrium. 50 % of all patients had cheesy endometrium and enlarged uterus in patients with atypical hyperplasia.

Keywords: Endometrium, Hyperplasia, abnormal uterine bleeding, Metrorrhagia, Perimenopausal, Nulliparous

Introduction

Functional uterine hemorrhage, abnormal uterine hemorrhage, dysfunctional uterine bleeding etc are names used to describe the abnormal uterine bleeding as a result of endocrine dysfunction, which affects the derangement of the hypothalamic-pituitary-ovarian-endometrial axis. Novak E was concerned with the causation of abnormal uterine bleeding mostly due to endocrine disorders and there are other factors which affect the menstrual function through the musculature of the uterus, the vasomotor apparatus and the vascular mechanism of the endometrium. The alterations in the ratio of vaso-constrictive and vasodilator prostaglandins has been involved with the causation of abnormal uterine bleeding (1).

Dilatation and curettage are necessary as an interventional medical treatment in cases of abnormal uterine bleeding irrespective of women's age to obtain an endometrium sample to be studied histologically (2).

The comprehensive study of the clinical data and the endometrial histopathological findings could be the focus in cases of menorrhagia where there is a perception of normal endometrium with no clinical evidence of any pathology in pelvic organs (3)..

The endometrium microscopic examination plays a vital role in the diagnoses of the various pathological factors in cases of abnormal uterine bleeding (2,3). Histopathological examination of the endometrium remains the only alternative to reach the diagnosis when there is no systemic or local pelvic evident cause (4).

The histopathological study of the endometrium in abnormal uterine bleeding was undertaken to correlate histopathological studies with clinical presentations and to correlate the histopathological findings' distribution in different age groups.

Methods

This study was conducted in the Department of Obstetrics and Gynaecology at Prince Hashime /Az zarqa in Royal Medical Services RMS during the period 2018 to 2020. Purposive sampling technique was used to select two hundred patients diagnoses with abnormal uterine bleeding who underwent endometrial sampling after dilatation and curettage. A cohort study was used to evaluate and interpret the endometrial histological findings among women with abnormal uterine bleeding and correlate it with different age groups.

Sample was recruited after establishing the Inclusion and Exclusion criteria which included:

Inclusion criteria
• Abnormal uterine bleeding of any type at any age.

Exclusion criteria
• Pregnancy.
• Uterine tumors.
• Intrauterine foreign device ex. IUCD.
• Coagulopathies conditions (platelet disorder; abnormalities in clotting factor)
• On hormone medication
• Endocrine disorder (disorder of adrenal, thyroid and diabetes mellitus).

History was taken from all patients which included age, parity, pattern of uterine bleeding (amount and duration), data to assess secondary causes of dysfunctional uterine bleeding. Physical assessment was done to rule out the cause of abnormal uterine bleeding.

Speculum examination was done to identify the health or disorder condition of vagina and cervix (characteristic of the discharge i.e. nature, color and odor) lesion and direction of the cervix.

Routine tests and investigations were done to distinguish the extraneous factors that could be responsible for abnormal bleeding which included:

• Complete Blood Count, Hemoglobin level, Coagulation profile, thyroid, liver and kidney function test, Hormonal assay, Ultrasound

Dilatation and curettage D&C was done in productive and perimenopausal women 20 - 40 years who have futile hormone treatment for six months to rule out tuberculosis, the following points were considered:

• Uterocervical extent
• Regularity or irregularity of the uterine cavity
• The endometrium sample (amount and nature)

Finally, the endometrium nature was noted and correlated with age and clinical findings of the patient.

Results

In this study, the maximum number of cases with dysfunctional uterine bleeding were found in the reproductive fertile age group 20 to 40 years (60.42 %) and minimum number occurred in the age group <20 years (2.50%).

Table 1: Cases distribution according to the patient's age

Percentage	Numbers	Age in years
2.50	12	<20
60.42	120	20-40
37.08	68	>40
100.00	200	**Total**

The minimum age of the patient was 19 years and maximum age was 62 years. The range was 43 years.

Table 2: Cases distribution according to parity.

Percentage	Numbers	Parity
3.56	8	Nulliparous
2.63	6	Uniparous
90.25	178	2-5
3.56	8	>5
100.00	200	**Total**

The maximum number of cases was found in women with parity 2-5 (90.25%). The percentage for nulliparous and the women with parity >5 was 3.56. The minimum number of cases was in uniparous women, the percentage was 2.63.

Table 3: Menstrual bleeding type

Percentage	Numbers	Types of menstrual bleeding
35.94	76	Menorrhagia
20.91	42	Metrorrhagia
19.40	34	Metropathia Haemorrhagica
9.64	19	Polymenorrhagia
9.64	19	Continuous bleeding
4.47	10	Postmenopausal bleeding
100.00	200	Total

Menorrhagia was the major symptom in 76 cases and represented 35.94% of all the cases. Metrorrhagia was the second with the percentage of 20.91 and metropathia haemorrhagica was the third common menstrual disorder with the percentage of 19.40. Postmenopausal bleeding represented 4.47% of all patients.

Table 4: Histopathological findings of the endometrium

Percentage	Number of cases	Type of endometrium
26.50	53	Proliferative
34.42	68	Secretory
29.95	59	Cystoglandular hyperplasia
5.68	12	Adenomatous hyperplasia
2.03	5	Atypical hyperplasia
1.42	3	Irregular shedding
100.00	200	Total

The proliferative endometrium percentage was 26.50 and secretory endometrium was 34.42. Menorrhagia was the commonest mode of the entire age group, 50% in the group <20 years, 36.66% in reproductive age and 37.26% in the age group >40 years.

Metrorrhagia and metropathia haemorrhagica were found in 23.17% and 20.85% of cases in reproductive age group and in 12.05% and 15.11% of cases in the age group >40 years.

Table 5: The correlation between menstrual bleeding type and age group

Post-menopausal bleeding	Continuous Bleeding	Polymenorrhagia	Metropathia Haemorrhagica	Metrorrhagia	Menorrhagia	Number of cases	Age group (year)
0	0	0	0	6 (50%)	6 (50%)	12	<20
0	11 (9.22%)	12 (10.1%)	23 (20.85%)	27 (23.17%)	47 (36.66%)	120	20-40
10 (13.84%)	8 (11.53%)	7 (10.21%)	11 (15.11%)	9 (12.05%)	23 (37.26%)	68	>40

Discussion

200 cases diagnosed with dysfunctional uterine bleeding were analyzed for age, parity, types of menstrual bleeding, histopathological findings of the endometrium and the correlation between each other.

Several studies have been conducted globally for the same reason and the percentage of the abnormal uterine bleeding was highest in the women of 20-40 age groups (60.42), which is considered similar to different studies such as studies by Loganathan (60.04) (7), Sutherland (56.8), Wagh KV (64.86) and Joshi SK (62.98) (5,6). According to Devi PK the percentage of abnormal uterine bleeding in the women aged above 40 years was 37.08 which considered correlates with the studies by Loganathan (38.58) and Sutherland (39.3) (7).

The maximum number of cases of abnormal uterine bleeding was in multiparous women and the minimum number was in uniparous women. The percentage was 90.25 in the women (parity 2 to 5) and it was 3.56 in nulliparous and 2.63 in uniparous women.

The Joshi SK study, found that the maximum percentage of abnormal uterine bleeding in multiparous women was (62.54%), 25.96% in nulliparous and 12.50% in uniparous women (8).

The maximum percentage of abnormal uterine bleeding in multiparous women in this study was consistent and similar with the study by Loganathan and Joshi SK (9).

Conclusion

The greatest percentage of abnormal uterine bleeding was found in the reproduction age group of 20-40 years in multiparous women and Menorrhagia was the commonest in all age groups.

The majority of the patients with secretory and proliferative endometrium had normal uterus size and normal form of endometrium. 50 % of all patients had cheesy endometrium and enlarged uterus in patients with atypical hyperplasia.

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