

Histopathological Pattern of Endometrium on Diagnostic D & C in Patients with Abnormal Uterine Bleeding

Sadia Khan,¹ Sadia Hameed,² Aneela Umber³

Abstract

Aims and Objectives: To determine histopathological pattern of endometrium in patients with abnormal uterine bleeding.

Study Type: Observational, Cross sectional.

Place of Study: Obs and Gynae department, Madina teaching hospital, FSD.

Duration of Study: One and a half year from Oct 2008 to Apr 2010.

Patients and Methods: Patients presenting to Madina teaching hospital OPD with complaint of abnormal uterine bleeding were assessed via inclusion and exclusion criteria to be included in this study. A detailed history was followed by general physical, systemic, and gynecological examination. A pelvic ultrasound was performed followed by diagnostic D&C. Endometrial biopsy sent for histopathological examination in Pathology department of Madina teaching hospital, FSD. Data was collected over a period of one and a half year, and shifted to computer for analysis. Statistical package of social sciences (SPSS) version 15 was used for statistical analysis of data. Chi-square goodness of fit was used as test of statistical significance.

Results: The most common pathological pattern identified was proliferative phase endometrium (46.4%). Secretary phase endometrium was second most com-

mon pathology (37.6%). Cystic (5.2%), adenomatous (3.8%), and atypical (3.6%) hyperplasia constituted 12.6% of bulk. In 1.4%, endometritis was identified as a cause of abnormal uterine bleeding followed by atrophic endometrium (1%). Polyp was identified in 0.6% of cases followed by endometrial carcinoma (0.4%).

Conclusion: Histopathological pattern of endometrium in patients with abnormal uterine bleeding is quite variable regardless of age, parity and ethnicity. Although the incidence of endometrial hyperplasia is grossly variable, yet incidence of endometrial carcinoma is small in all sited studies.

Key words: D&C, AUB.

Introduction

Abnormal uterine bleeding is a major gynecological problem, accounting for 33% of outpatient referrals, including 69% of referrals in peri-menopausal and postmenopausal age group.¹ In women ≥ 40 years, and certainly in menopausal patients, it mandates evaluation to confirm benign nature of the problem, by ruling out endometrial carcinoma, so that medical treatment or conservative surgery can be offered and unnecessary radical surgery can be avoided.²⁻⁴ A study reports that on histopathology only 10% of these are found to have endometrial carcinoma.⁵ Dilatation and Curettage is mainstay of endometrial sampling for decades,⁶⁻¹⁰ however associated risks of general anesthesia, uterine perforation, and infection has led to the advent of new and simple methods for endometrial sampling.¹¹⁻¹⁴ Considering such number of gynecological referrals for abnormal uterine bleeding, and its mandatory evaluation by endometrial biopsy to

Khan S.¹
Madina Teaching Hospital, Faisalabad

Hameed S.²
Madina Teaching Hospital, Faisalabad

Umber A.³
Assistant Professor, Madina Teaching Hospital, Faisalabad

exclude endometrial carcinoma, it is reasonable to assume that it puts a considerable economic burden on society. A study was conducted by Liu Z et al¹⁵ to evaluate the impact of abnormal uterine bleeding on women's health related quality of life and to quantify the economic burden of abnormal uterine bleeding from a societal perspective. He found the prevalence of abnormal uterine bleeding among women of reproductive age ranged from 10% to 30%, and that women with abnormal uterine bleeding have health related quality of life below the 25th percentile of that for the general female population within a similar age range. This prompted author to design the study to determine the histopathological pattern of endometrium in such patients.

Aims and Objectives

To determine histopathological pattern of endometrium in patients with abnormal uterine bleeding.

Patients and Methods

After written informed consent patients presenting to Madina teaching hospital OPD with complaint of abnormal uterine bleeding (menorrhagia, polymenorrhoea, irregular P/V bleeding, postmenopausal bleeding), postmenopausal discharge, cervical polyp on P/S examination and endometrial polyp on ultrasound were assessed via inclusion and exclusion criteria to be included in this study.

Inclusion Criteria

Patients with: irregular P/V bleeding at any age, menorrhagia, polymenorrhoea, cervical polyp, endometrial polyp, postmenopausal bleeding, postmenopausal discharge, failed medical treatment for abnormal uterine bleeding, menorrhagia at < 40 years with risk factors for endometrial carcinoma such as obesity, polycystic ovarian disease, tamoxifen therapy, and family history of endometrial carcinoma.

Exclusion Criteria

Patients with: pregnancy complications (threatened / incomplete miscarriage, molar pregnancy, and ectopic pregnancy), acute PID, in situ intrauterine contraceptive device, and on hormonal treatment for abnormal uterine bleeding.

A detailed history with special consideration of previous and current menstrual history, contraception history, medical / surgical history was followed by general physical, systemic, and gynecological examination. On gynecological examination, cervix (position of cervix, condition of cervix – erythematous / hypertrophy, presence of ectopy / polyp, mobility), uterus (size, position, consistency, and mobility), and adnexae were assessed. Baseline investigations (blood group and Rh factor, Hb%, blood sugar random, urine complete examination, viral serology) were performed. A pelvic ultrasound especially about uterus (uterine size, endometrial thickness, presence of endometrial polyp, any endometrial growth, fibroids), and ovarian status (presence of any cyst / mass, and its characteristics) was performed by Radiology department.

Diagnostic D&C was performed in these patients and endometrial biopsy sent for histopathological examination in Pathology department of Madina teaching hospital, FSD.

Data was collected over a period of one and a half year, and shifted to computer for analysis. Statistical package of social sciences (SPSS) version 15 was used for statistical analysis of data. Chi-square goodness of fit was used as test of statistical significance.

Results

A total of 500 patients were included in this study. The mean age of patients was 40.0 ± 5.2 years, the minimum age was 32 years and the maximum was 75 years Table 1. The mean age of menarche was 13.3 ± 2.3 years. Of these 40.6% of patients were grand multiparous, 35.6% were multiparous, 18.4% were of low parity, and 5.4% were nulliparous Table 2. 10% of the patients were obese, 28.2% were overweight, and 61.8% were in normal weight group Table 3.

The main presenting complaint was menorrhagia (57.8%), followed by irregular P/V bleeding (32.8%),

Table 1: Age group of patients presenting with AUB n = 500.

Sr. No.	Age group (years)	Number	Percentage (%)
1.	< 35 years	52	10.4
2.	35 – 45	200	40
3.	45 – 55	210	42
4.	> 55	38	7.6

Table 2: Parity of patients presenting with AUB n = 500.

Sr. No.	Parity	Number	Percentage (%)
1.	Nulliparous	27	5.4
2.	Low parity (P1 – P2)	92	18.4
3.	Multiparous (P3 – P4)	178	35.6
4.	Grandmultiparous (≥ P5)	203	40.6

Table 3: Weight of patients presenting with AUB n = 500.

Sr. No.	BMI (kg/m ²)	Number	Percentage (%)
1.	Normal weight (19 – 25)	309	61.8
2.	Over weight (25 – 29)	141	28.2
3.	Obese (≥ 30)	50	10

continuous P/V bleeding (2.4%), P/V discharge (2%), and post-menopausal bleeding (5%) Table 4.

Table 4: Pattern of bleeding in patients presenting with AUB n = 500.

Sr. No.	Pattern of Bleeding	Number	Percentage (%)
1.	Menorrhagea	289	57.8
2.	Irregular P/V bleeding	164	32.8
3.	Continuous P/V bleeding	12	2.4
4.	P/V discharge	10	2
5.	Postmenopausal bleeding	25	5

The sample was sufficient in 99.9% of patients. The types of endometrial lesions according to histopathology report consisted of secretory phase, proliferative phase, atrophic endometrium, endometritis, polyp, hyperplasia (cystic, and adenomatous without atypia, and with atypia), and carcinoma (mainly adenocarcinoma).

The most common pathological pattern identified was proliferative phase endometrium (46.4%). Secretory phase endometrium was second most common pathology (37.6%). Cystic (5.2%), adenomatous

(3.8%), and atypical (3.6%) hyperplasia constituted 12.6% of bulk. In 1.4%, endometritis was identified as a cause of abnormal uterine bleeding followed by atrophic endometrium (1%). Polyp was identified in 0.6% of cases followed by endometrial carcinoma (0.4%).

Table 5: Histopathological pattern of endometrium in patients presenting with AUB n = 500.

Sr. No.	Endometrial Histopathology	Number	Percentage (%)
1.	Proliferative phase	233	46.6
2.	Secretory phase	192	38.4
3.	Cystic hyperplasia without atypia	32	6.4
4.	Cystic hyperplasia with atypia	12	2.4
5.	Adenomatous hyperplasia without atypia	14	2.8
6.	Adenomatous hyperplasia with atypia	5	1.0
7.	Endometritis	2	0.4
8.	Polyp	3	0.6
9.	Atrophic endometrium	5	1.0
10.	Endometrial carcinoma	2	0.4

Discussion

Abnormal uterine bleeding is defined as any bleeding from uterus other than menstrual bleeding. Since long it has been classified as abnormal uterine bleeding secondary to organic pathology or dysfunctional uterine bleeding.

In women of childbearing age, detailed history, thorough physical examination (systemic and gynecological), and appropriate investigations are main tools to rule out causes such as pregnancy and pregnancy – related disorders, medications, iatrogenic causes, systemic conditions, and obvious genital tract pathology; and dysfunctional uterine bleeding is a diagnosis of exclusion. However in women of childbearing age who are at high risk for endometrial cancer (obese, diabetic, with cycle irregularity, and diagnosed to have polycystic ovarian disease) the initial evaluation should include endometrial biopsy; or diagnostic

hysteroscopy if initial evaluation is inconclusive. Postmenopausal women with abnormal uterine bleeding must be offered endometrial biopsy. The main aim of endometrial biopsy is not only to identify cause of abnormal uterine bleeding, but also to exclude malignancy.

Results of this study report endometrial lesions according to histopathology reports as: proliferative phase endometrium (46.6%), secretory phase endometrium (38.4%), atrophic endometrium (1%), endometritis (1.4%), polyp (0.6%), hyperplasia (cystic (5.2%), adenomatous (3.8%), and atypical (3.6%), and carcinoma (0.4%).

In this study proliferative phase endometrium was found in 46.6% of cases. It is substantially higher than that (46.4% V/S 13%) reported by Schneider¹⁶ and slightly higher than that (46.4% V/S 42%) reported by Sheetal et al.¹⁷ However it is lower than that (46.4% V/S 54%) reported by Fakhar S et al.¹⁸

Secretory phase endometrium was found in 38.4% of cases. It is higher than that reported by others (37.6% V/S 14%,¹⁸ and 37.6% V/S 22%).¹⁷

Endometrial hyperplasia was observed in 12.6% of cases. Literature reports quite variable incidence of endometrial hyperplasia. Silander found it to be 6.66%.¹⁹ Wentz and Behnamfar et al report it as 9% and 10.9% in their studies.^{20,21} However Amara et al report it 15%,²² and Dexus²³ and Jyotsana²⁴ report an incidence of 21% and 22.66%. A rather high incidence of 26% and 28.3% was reported by Sheth²⁵ and Anuradha Panda.²⁶

Cystic hyperplasia without atypia was observed in 6.4% and with atypia in 2.4% of cases. And adenomatous hyperplasia without atypia was observed in 2.8% and with atypia in 1.0% of cases. Wentz report cystic hyperplasia in 5.1%, adenomatous hyperplasia in 2.6%, and atypical hyperplasia in 1.3% of cases.²⁰ Amara et al report it as: 10% cystic hyperplasia, 3% adenomatous hyperplasia, and 2% atypical hyperplasia.²² Sheetal et al report it as cystic hyperplasia without atypia 13%, with atypia 3%, adenomatous hyperplasia without atypia 3%, and adenomatous hyperplasia with atypia 1%.¹⁷

Endometrial polyp was reported in 0.6% of cases. Again literature report quite variable incidence of it. Sheetal et al reported it as 5%,¹⁷ Silander as 6.66%,¹⁹ and 7.8% by de Jong.²⁷ An incidence of 9.8%, 10%, 12%, 20% was reported by Mencalgia,²⁸ Anuradha Panda,²⁶ Acharya Veena,²⁹ and Jyotsana.²⁴

Endometritis was found in 0.4% of cases. It is quite different from that reported by others as 3%,¹⁷ 3.28%¹⁸ and 7%.³⁰

Atrophic endometrium was observed in 1% of cases. Others report it as 3%, 5%,²⁶ 8%,¹⁷ 9.67%,³¹ and 12%.²⁸

Endometrial carcinoma was reported in 0.4% of cases. It is same as that reported by Moghal³⁰ and Valle.³² Although others report somewhat higher as 1.3%,²⁴ 2%¹⁷ and 3.3%²⁷ but it does not seem to be substantially higher.

Comparison of results of this study with others as stated above indicates that histopathological pattern of endometrium in patients with abnormal uterine bleeding is quite variable regardless of age, parity, and ethnicity. Although the incidence of endometrial hyperplasia is grossly variable, yet incidence of endometrial carcinoma is smaller in all sites studies. So important finding seems to be endometrial hyperplasia with its attendant risk of progression to carcinoma and further studies are required to address and explore course of progression of hyperplasia to carcinoma.

Conclusion

Histopathological pattern of endometrium in patients with abnormal uterine bleeding is quite variable regardless of age, parity and ethnicity. Although the incidence of endometrial hyperplasia is grossly variable, yet incidence of endometrial carcinoma is small in all sites studies.

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