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Original Research Article

A Hospital Based Observational Assessment of Histopathological Changes of Endometrium in Women with Dysfunctional Uterine Bleeding

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Abstract

Aim: The aim of the present study was to understand the pathogenesis of dysfunctional uterine bleeding by noting different types of Histopathological changes of endometrium by dilatation and curettage.

Methods: The study was conducted at Department of Obstetrics and Gynaecology, Nalanda Medical College and Hospital, Patna, Bihar, India for one year. In this study 100 women with complaints of abnormal uterine bleeding were selected from OBG OPD of NMCH.

Results: In between the age group of 16-20 years 4 cases were seen, 21-25 years age group 21 cases were seen, 26-30 years age group 20 cases were seen, 31-35 years age group 19 cases were seen, 36-40 years 31 cases were seen, and in between 41-45 years 5 cases were seen. So the maximum incidence as seen in the age group of 36-40 years following 21-25 years age group. Minimum incidence was in the age group 16-20 years. Heavy menstrual bleeding was the most common symptom accounting for 55% of patients followed by postmenopausal bleeding accounting for 18% with the least being menometrorrhagia (3%). Proliferative phase was the most common histological finding accounting for 37% followed by secretory phase accounting for 23 and disordered proliferative endometrium 15% and the least commonly seen were complex hyperplasia with atypia 1%, complex hyperplasia without atypia 1%, endometrial adenocarcinoma 1% & carcinosarcoma 1%.

Conclusion: Histopathological pattern of endometrium helps in finding the cause of dysfunctional uterine bleeding. Dilatation and curettage serves diagnostic and therapeutic purposes in DUB.

Keywords: Endometrium, dysfunctional uterine bleeding, proliferative, secretory, histopathological changes

Introduction

Dysfunctional uterine bleeding is considered as bleeding (either excessive amount, prolonged or frequent) of uterine origin without any demonstrable pelvic pathology, complication of pregnancy or any other systemic diseases. [1] This ovulatory and an ovulatory bleeding is diagnosed after the exclusion of

pregnancy, pregnancy-related disorders, medications, iatrogenic causes, obvious genital tract pathology and systemic conditions. Endometrial curettage and biopsy are the two most important methods for definitive diagnosis of the lesions and studies have shown that histopathological pattern of diagnosis varies with respect to age of the patients. Women of perimenopausal age group present more commonly with endometrial hyperplasia and endometrial cancer. [2] Histological characteristics of endometrial biopsy material as assessed by light microscopy remain the diagnostic standard for the clinical diagnosis of endometrial pathology. [3] Types of endometrial histology found in perimenopausal age group in the previous studies are secretory endometrium, proliferative endometrium, simple hyperplasia without atypia, complex hyperplasia without and with atypia, endometrial polyp, exogenous hormone induced changes in endometrium, disordered proliferative endometrium and endometrial changes in luteal phase defect.

Many authors defined dysfunctional uterine bleeding in different ways. Kistner [4] applies the term to abnormal bleeding in which organic lesions cannot be recognized by ordinary means. Ackerman [5] states that "bleeding not associated with an organic cause in women of child bearing age belong to the large and somewhat nebulous category known as DUB". Novak [6] defines it as "bleeding without a causative uterine lesion such as tumour infection or complications of pregnancy, although frequently there may be associated follicle cysts of the ovary".

The endometrial sampling is chosen to evaluate abnormal uterine bleeding because it has several advantages over other diagnostic methods. The hormonal assay is very expensive and laboratories with hormonal assay are not available in rural areas. Ultrasonography clearly depicts the uterine contour and the status of the ovary, but fails to provide adequate information regarding the endometrium, except in atrophy and hyperplasia. [7] Very few lesions escape detection by D&C, especially as hysteroscopy has almost replaced blind curettage so that the uterine cavity can be observed and the area in question can be curetted. [8] The only disadvantage of endometrial biopsy is that, it is an invasive procedure. The underlying abnormality can be detected by histological variations of endometrium taking into account the age of the woman, the phase of her menstrual cycle, and use of any exogenous hormones. An understanding of the normal morphological appearance of the endometrium provides an essential background for the evaluation of endometrial pathology. [9]

The aim of the present study was to understand the pathogenesis of dysfunctional uterine bleeding by noting different types of Histopathological changes of endometrium by dilatation and curettage.

Materials and Methods

The study was conducted at Department of Obstetrics and Gynaecology, Nalanda Medical College and Hospital, Patna, Bihar, India for one year. In this study 100 women with complaints of abnormal uterine bleeding were selected from OBG OPD of NMCH

Inclusion Criteria

- Reproductive age group.
- Women with abnormal uterine bleeding.

Exclusion Criteria

- Women with abnormal uterine bleeding due to structural causes.
- Postmenopausal women with bleeding.

Detailed and relevant history taken from all these 100 women followed by thorough clinical examination, which includes general, systemic and gynecological examination. All these patients were

subjected to routine investigations like – haemoglobin percentage, Urine examination for albumin, sugar, microscopy, Blood for total count, differential count, ESR, bleeding time and clothing time to rule out blood dyscrasias. All these 100 women after excluding other disorders by pelvic examination and investigations were diagnosed as "Dysfunctional Uterine bleeding". For all these cases under antibiotic coverage, dilatation and curettage was done and the material was sent for histopathological examination. Bleeding was controlled with styptics. For correction of anemia hematenics given.

The details noted in histopathological examination were

- Surface Epithelium
- Glands – their shape, size, lining epithelium.
- Stroma.

Results

Table 1: Distribution of patients according to age

Age groups in years	N	%
16-20	4	4
21-25	21	21
26-30	20	20
31-35	19	19
36-40	31	31
41-45	5	5
Total	100	100

The 100 dysfunctional uterine bleeding cases were analysed. According to the type of endometrium in 100 DUB cases. Correlation of bleeding pattern with an endometrium pattern was analysed. In between the age group of 16-20 years 4 cases were seen, 21-25 years age group 21 cases were seen, 26-30 years age group 20 cases were seen, 31-35 years age group 19 cases were seen, 36-40 years 31 cases were seen, and in between 41-45 years 5 cases were seen. So the maximum incidence as seen in the age group of 36-40 years following 21-25 years age group. Minimum incidence was in the age group 16-20 years.

Table 2: Distribution of Bleeding Patterns

Bleeding Patterns	N	%
Heavy bleeding (Menorrhagia)	55	55
Intermenstrual Bleeding (Metrorrhagia)	12	12
Heavy & prolonged bleeding (Menometrorrhagia)	3	3
Frequent menstrual bleeding (Polymenorrhoea)	8	8
Oligomenorrhea	4	4
Post-menopausal bleeding	18	18
Total	100	100

Heavy menstrual bleeding was the most common symptom accounting for 55% of patients followed by postmenopausal bleeding accounting for 18% with the least being menometrorrhagia (3%).

Table 3: Analysis of Histopathological Findings

Histopathological Findings	N	%
Proliferative endometrium	37	37
Secretory endometrium	23	23

Chronic endometritis	3	3
Simple hyperplasia without atypia	4	4
Complex hyperplasia without atypia	1	1
Complex hyperplasia with atypia	1	1
Endometrial polyp	5	5
Disordered proliferative endometrium	15	15
Atrophic endometrium	8	8
Endometrial adenocarcinoma	1	1
Carcinosarcoma	1	1
Inadequate	1	1
Total	100	100

Proliferative phase was the most common histological finding accounting for 37% followed by secretory phase accounting for 23 and disordered proliferative endometrium 15% and the least commonly seen were complex hyperplasia with atypia 1%, complex hyperplasia without atypia 1%, endometrial adenocarcinoma 1% & carcinosarcoma 1%.

Discussion

The endometrium which lines the uterine cavity is one of the most dynamic tissues in the human body; an interesting tissue for histopathological study. It is characterized by cyclic processes of cell proliferation, differentiation and death in response to sex steroids elaborated in the ovary. [9] Abnormal uterine bleeding is the commonest presenting symptom and major gynaecological problem responsible for as many as one-third of all outpatient gynaecologic visit. [10] Menorrhagia affects 10-30% of menstruating women at any one time, and may occur at some time during the perimenopause in up to 50% of women. [11] Abnormal Uterine Bleeding (AUB) is defined as any bleeding that does not correspond with the frequency, duration or amount of blood flow of a normal menstrual cycle. [12] It is a common problem and could be a sign of simple hormonal imbalance or a serious underlying condition necessitating aggressive treatment including a major surgical procedure. [13]

In between the age group of 16-20 years 4 cases were seen, 21-25 years age group 21 cases were seen, 26-30 years age group 20 cases were seen, 31-35 years age group 19 cases were seen, 36-40 years 31 cases were seen, and in between 41-45 years 5 cases were seen. So the maximum incidence as seen in the age group of 36-40 years following 21-25 years age group. Minimum incidence was in the age group 16-20 years. Pillai et al., did their study on 88 cases in the age group 40-50 years and reported a preponderance of proliferative endometrium in histology and a diagnosis of fibroid uterus in 55.7%. [14] Yet another study conducted by Kariappa T M et al., on larger sample size of 205 cases in a wider age range of 20-60 years. The study showed the endometrial pattern of 40% cases of proliferative endometrium followed by 31% cases of secretory endometrium in DUB patients. [15]

In the present study, Heavy menstrual bleeding was the most common symptom accounting for 55% of patients followed by postmenopausal bleeding accounting for 18% with the least being menometrorrhagia (3%). similar to findings in the studies by Shilpa [16] (60.5%) and Sharma J [17] (57.44%). Predominant number of cases in this study showed normal physiologic phases such as proliferative, secretory and atrophic endometrial patterns; this is similar to findings by most other authors. The bleeding in the proliferative phase may be due to anovulatory cycles and bleeding in

the secretory phase is due to ovulatory dysfunctional uterine bleeding. [18]

In the present study, Proliferative phase was the most common histological finding accounting for 37% followed by secretory phase accounting for 23 and disordered proliferative endometrium 15% and the least commonly seen were complex hyperplasia with atypia 1%, complex hyperplasia without atypia 1%, endometrial adenocarcinoma 1% & carcinosarcoma 1%. Khan S [19] (PE-233/46.6%, SE-192/38.4%) and Shilpa [16] (PE-70/35%, SE- 53/26.5%) had similar findings. Chronic endometritis accounted for 3.3% of cases in the present study; Baral R [20] had similar finding (2.71%) in his study.

In the present study, incidence of atrophic endometrium was noted in 8% cases, which was similar to the finding by Bhatta S [21] (7.38%). The slightly high number of atrophic endometrium in our study can be explained by the high number of peri and post-menopausal women in our study, in comparison to other studies. Postmenopausal bleeding is frequently associated with an atrophic endometrium. Atrophy of endometrium occurs as a consequence of the prolonged absence of any endogenous or exogenous estrogenic stimulation. The thin atrophic endometrium is susceptible to minor injury and may be responsible for postmenopausal bleeding even in the absence of an identifiable lesion. Superficial large, dilated venules are situated under a thin endometrium which may rupture to cause excessive uterine bleeding. [22] Endometrial polyps constituted 5% of all cases in our study, similar to the finding of Sajitha K [8] (5.12%). [23]

Conclusion

Histopathological changes of endometrium help in finding the cause of dysfunctional uterine bleeding. In present study, it is concluded that dilatation and curettage is an option for both diagnostic and therapeutic response and to know the pathological incidental organic lesions in dysfunctional uterine bleeding prior to surgery.

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