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Histopathological study of endometrium in dysfunctional uterine bleeding

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Abstract
Background: Dysfunctional Uterine Bleeding (DUB) is one of the commonest conditions for which patients seek advice in the gynecological outpatient department. The prevalence increases with age, peaking just prior to menopause. It often occurs when the endometrium, or lining of the uterus, is stimulated to grow by the hormone estrogen. When exposure to estrogen is extended, or not balanced by the presence of progesterone, the endometrium continues to grow until it outgrows its blood supply. Then it sloughs off, causing irregular bleeding.
Objective: To evaluate the patterns of endometrial histological findings in women with dysfunctional uterine bleeding and to correlate these findings with clinical features.
Material and Methods: Endometrial curettage samples were received and sent to Department of Pathology in 10% formalin and histopathology report were collected. Thorough per speculum and per vaginal examination were done. PAP‟s smear taken and report were collected. Other Hematological, Bio-chemical, Coagulation Profile, Hormonal assay, Thyroid Profile and Radiological investigations were done to analyze DUB cases.
Results: The most common endometrial pattern was proliferative endometrium 52% followed by secretory endometrium 18%. The most common menstrual disorder was menorrhagia 75% followed by metorrhagia 14%. DUB was seen maximum 67% in multipara cases followed by 28% in grand multipara.
Conclusion: Histopathological examination of endometrium should be done in women presenting with dysfunctional uterine bleeding especially after the age of 40 years to rule out malignancy. Dilatation and curettage reveals endometrial pattern in dysfunctional uterine bleeding in different cases.

Keywords: dilatation and curettage, dysfunctional uterine bleeding, endometrial patterns, menorrhagia

Introduction
Endometrium is a highly active, hormonally sensitive and responsive tissue which constantly and rhythmically undergoes changes during reproductive life of woman [1]. Women suffer from many gynecological diseases. One among them is dysfunctional uterine bleeding or abnormal uterine bleeding which has significant morbidity in that it interferes with their personal, family and social life. Abnormal uterine bleeding is defined as a bleeding pattern that differs in frequency, duration and amount from a pattern observed during a normal menstrual cycle [2]. Which is one of the most frequently encountered and perplexing condition in adult women [3].
Dysfunctional Uterine Bleeding (DUB) is one of the commonest conditions for which patients seek advice in the gynecological outpatient department. It is estimated that 9-30% of women of reproductive age suffer from menorrhagia. The prevalence increases with age, peaking just prior to menopause. Because most cases are associated with anovulatory menstrual cycles, adolescent and perimenopausal women are particularly vulnerable. About 20% of affected individuals are in the adolescent age group and 50% of affected individuals are aged between 40-50 years [4]. It often occurs when the endometrium, or lining of the uterus, is stimulated to grow by the hormone estrogen. When exposure to estrogen is extended, or not balanced by the presence of progesterone, the endometrium continues to grow until it outgrows its blood supply. Then it sloughs off, causing irregular bleeding [5].
With medical advancements combined with increasing awareness about gynecological problems women gain access to most of the diagnostic and therapeutic modalities. The endometrial biopsy is chosen to evaluate dysfunctional 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. In this study, we attempt to evaluate the patterns of endometrial histological findings in women with dysfunctional uterine bleeding and to correlate these findings with clinical features.

Material and Methods
Study Design
This study was carried out in the Department of Obstetrics and Gynaecology, Dr S.N. Medical College & attached hospitals, Jodhpur, Rajasthan from November 2016 to November 2017on 100 patients having a clinical diagnosis of Dysfunctional uterine bleeding.

Methods
Endometrial curettage samples were received and sent to Department of Pathology in 10% formalin and histopathology

report were collected. Thorough per speculum and per vaginal examination were done. PAP's smear taken and report were collected. Other Hematological, Bio-chemical, Coagulation Profile, Hormonal assay, Thyroid Profile and Radiological investigations were done to analyze DUB cases.

In this study all clinically diagnosed DUB cases coming to OPD of Obstetrics & Gynecology who gave consent for thorough per vaginal and per speculum examination and radiological investigation were included while patients presenting with DUB due to pregnancy related complications, structural lesions diagnosed radiologically and autolyze specimen were excluded.

Results

The present study was carried out in the department of Obstetrics & Gynecology in which 100 cases of DUB were studied. The age of the patient ranged from 20-50 years. Maximum numbers of patients 32% were in the age group of 36 - 40 years followed by 30% were in the age group of 41-45 years while none of the case was found in the age group of 20-25 years. (Table 1)The most common endometrial pattern was proliferative endometrium 52% followed by secretory endometrium 18% while the least common endometrial pattern was simple atypical hyperplasia 1% (Table 2) The most common menstrual disorder was menorrhagia 75% followed by metorrhagia 14% while none of the case was found of oligomenorrhoea. (Table 3) In this study we found that DUB was seen maximum 67% in multipara cases followed by 28% in grand multipara while in nullipara only 2% was seen. (Table 4)

Table 1: Distribution of 100 cases of DUB according to various age groups

Age group	Number of cases	Percentage
20-25	00	00 %
26-30	04	04%
31-35	12	12%
36-40	32	32%
41-45	30	30%
46-50	22	22%
Total	100	100%

Table 2: Types of Endometrial Pattern among Various Age Groups

Type of Endometrium	Number of Cases	Percentage
Proliferative Endometrium	52	52
Secretory Endometrium	18	18
Mixed Endometrium	05	05
Chronic endometritis	02	02
Disorder Proliferative Endometrium	08	08
Simple Hyperplasia	09	09
Simple Atypical Hyperplasia	01	01
Complex Hyperplasia	02	02
Complex Hyperplasia with atypical	02	02
Arias Stella Reaction	01	01
Total	100	100

Table 3: Bleeding Patterns in 100 DUB Patients

Types of Bleeding	Number of Cases	Percentage
Menorrhagia	75	75 %
Metrorrhagia	14	14%
Polymenorrhagia	06	06%
Oligomenorrhoea	00	00%
Menometrorrhagia	05	05%
Total	100	100%

Table 4: Relationship of DUB with parity

Types of Parity	Number of Cases	Percentage
Nullipara	02	02%
Primipara (1)	03	03%
Multipara (2-3)	67	67%
Grand multipara (>4)	28	28%
Total	100	100%

Discussion

Dysfunctional uterine bleeding continues to be one of the most frequently encountered and perplexing problems in Gynaecological practice. In this study the incidence of DUB was (12.2%) which is similar to the study done by Bhattacharji [6], Devi and Sutaria [7] who also reported 12.6 % & 15-20% respectively. The age of D.U.B. patients has been taken as a criterion for study in attempt to establish incidence of D.U.B. in various age groups. Earlier it was believed that dysfunctional uterine bleeding occurs more frequently at either ends of the childbearing period[8] but subsequently various workers came out with results which showed different age group distribution of D.U.B.

In present study of 100 cases, incidence of DUB cases in 21-30 year age group was 4%, in 31-40 year age group incidence was 44%, In 41-50 year age group incidence was 52%. We found highest incidence in 41-50 year age group (52%) which was similar with the study conducted by Sutherland [9] (36.2%) and Anusya Das [10] (32.5%). However Mehrotra *et al*. [11] reported 48% incidence in 21 -30 year age group, 23.3% incidence in 31-40 year age group, and 16.7% incidence in 41-50 year age group.

In present study the incidence of proliferative endometrium was 52%, which was most common histological pattern followed by secretory phase 18%, simple hyperplasia without atypical 9%, simple hyperplasia with atypical 1%, Complex hyperplasia without atypical 2%, Complex hyperplasia with atypical 2%, disordered proliferative endometrium 8%, mixed endometrium 5%, Chronic Endometritis 2% and Arias-Steella Reaction 1%. Our results are consistent with the study conducted by Sutherland [9] who reported most common endometrial pattern was Prolifertive (64.8%) followed by secretory endometrium (14.4%). In other study conducted by Sadia Khan [12] the most common endometrial pattern was Prolifertive (46.4%) followed by secretory endometrium (38.4%).

In this study the incidence of menorrhagia was 75%, metrorrhagia was 14%, polymenorrhagia was 06%, oligomenorrhoea was 0% and menometrorragia was 05%.

Therefore, the most common bleeding pattern in our study was menorrhagia. In V.G. Mehrotra's [11] series the incidence of menorrhagia was 52%, incidence of metrorrhagia was 19.33%, incidence of polymenorrhagia 26.0%. In the study done by Rehana Khan *et al*. [13] menorrhagia was the most common bleeding pattern (55.8%).

In present study, maximum incidence of DUB was noted in Multipara which was 67% followed by Grand Multipara which was 28% while in Primipara incidence was 3% & in Nullipara incidence was 2%. Our findings were in accordance with various authors Joshi and Deshpande [14], Sadia Khan [12]. and V.G. Mehrotra [11] who reported 61.5%, 54% and 46% DUB in multiparous woman respectively. However Pillai[15] found highest incidence in the multipara (87%). The higher incidence in multipara can be explained because the general population shows higher incidence of multiparity [16].

Conclusion

Study of endometrial microscopy in women with DUB is helpful to distinguish an ovulatory from ovulatory DUB and to diagnose hyperplasia and carcinoma of endometrium. Dilatation and curettage reveals endometrial pattern in dysfunctional uterine bleeding in different cases, varying from normal proliferative and secretory patterns to irregular shedding, irregular ripening and cyst glandular hyperplasia patterns. Dilatation and curettage is helpful to exclude other organic pathology, which mimics dysfunctional uterine bleeding like endometrial polyp, chronic endometritis, endometrial carcinoma etc.

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