ORIGINAL RESEARCH PAPER
Volume - 10 | Issue - 04 | April - 2021 | PRINT ISSN No. 2277 - 8179 | DOI : 10.36106/ijsr
INTERNATIONAL JOURNAL OF SCIENTIFIC RESEARCH

HISTOPATHOLOGICAL STUDY OF ENDOMETRIUM IN DUB PATIENTS

Pathology

Dr.Mitali Das MD Pathology Senior Resident, Department of Pathology, B. J. Medical College and Civil Hospital, Asarwa, Ahmedabad 380016, Gujarat, India

Dr.Hitendra Barot MD Pathology Assistant Professor, Department of Pathology, B. J. Medical College and Civil Hospital, Asarwa, Ahmedabad 380016, Gujarat, India

Dr.Rahul sinha* MD Pathology Senior Resident, Department of Pathology, B. J. Medical College and Civil Hospital, Asarwa, Ahmedabad 380016, Gujarat, India *Corresponding Author

ABSTRACT

Introduction: The female genital tract is hormone responsive system.The endometrium is an endocrine organ that responds to circulating blood levels of estrogen and progesterone. Dysfunctional uterine bleeding (DUB) is one of the commonest clinical conditions for which patients seek advice in the gynecological outpatient department.The Dilatation & Curettage / endometrial biopsy(1) is chosen to evaluate dysfunctional uterine bleeding because it has several advantages over other diagnostic methods. DUB has great variation in the endometrial patterns and its management entirely depends upon the type of endometrium. Thus, histopathological study of endometrium plays an important role in its treatment. **Material and method:**This was a study of endometrium in women with complaint of DUB conducted at the Department of Pathology, Tertiary care centre, Ahmedabad. The present study included 300 endometrial tissue specimens studied by histological examination. Endometrial tissue were obtained by D &C and Hysterectomy. **Result and conclusion:** Maximum numbers of DUB patients were in age group 31-40 years (48.3%) while minimum incidence was in age group ≤ 20 years (0.7%). Atrophic endometrium was common finding in >40 years age group as a cause of DUB.large proportion of patients with DUB showed proliferative endometrial pattern (41.7%) followed by secretory phase (30%) and Hyperplastic pattern in 21.3% of patients.Histopathological study of endometrium is very useful to reveal different endometrial patterns in DUB and to distinguish between anovulatory ovulatory DUB. It is important to evaluate each and every case of DUB histologically to exclude organic pathology which mimics dysfunctional uterine bleeding like endometrial polyp, chronic endometritis or endometrial carcinoma etc.

KEYWORDS

DUB, Endometrial biopsy

Introduction: The female genital tract is hormone responsive system to a degree unmatched by any other system in the body. The gross configuration of uterus changes dramatically throughout the life. It is the kind of "Puppet on a string", thus manipulated throughout life by changing levels of ovarian hormones.[2] The endometrium is an endocrine organ that responds to circulating blood levels of estrogen and progesterone. Cyclical uterine bleeding, which begins in anatomically and physiologically normal female, marks an important stage of reproductive maturation.[3,4] Normal menstruation is defined as bleeding from the secretory endometrium associated with ovulatory cycle not exceeding a length of 5days.[5]

Dysfunctional uterine bleeding (DUB) is one of the commonest clinical 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.[5]

DUB is defined as increased abnormal endometrial bleeding unrelated to any anatomic lesions / organic pathology of the genital tract, systemic diseases or due to any complications of pregnancy.[2] It is essential to perform thorough clinical examination of abdomen and pelvis, hysteroscopy if required to rule out any organic diseases of uterus.[6]

Dilatation & Curettage / endometrial biopsy is performed when systemic or local pelvic causes are ruled out since it is a simple, safe and reliable investigation and it gives a direct access to the target organ.[7]

The Dilatation & Curettage / 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. Ultrasonography as diagnostic tool has limited value in dysfunctional uterine bleeding, except in atrophy and hyperplasia. Other investigations like hysteroscopy and hysterosalpingography are mainly helpful in diagnosing organic pathology.[8]

DUB has great variation in the endometrial patterns and its management entirely depends upon the type of endometrium. Thus, histopathological study of endometrium plays an important role in its treatment.

Material and method:

The study period was from June 2017 to October 2019 in a tertiary care hospital.

Patients presenting with DUB due to pregnancy related complications were excluded.Organic lesions involving the genital tract and organs like leiomyomas and adenomyosis, genital tract infection, systemic causes, iatrogenic causes like intrauterine contraceptive device, exogenous hormones and other lesions were also excluded.The clinical records of the histopathological specimens (Hysterectomy specimens and D&C material) received in the laboratory were entered in Laboratory Information System (LIS) portal, which can be accessed with help of System Manager on request. Descriptive and analytic analysis was done by using Microsoft excel.The process of tissue fixation, proccessing and H&E staining were done as per standard protocol.

Ethical considerations:

All procedures performed were in accordance with the ethical standards of the institution.

Observation and result:

Table 1: Age wise distribution of cases

AGE (Years)	NUMBER OF CASES	PERCENTAGE (%)
≤ 20	02	0.7%
21-30	45	15%
31-40	145	48.3%
41-50	96	32%
51-60	12	4%
Total	300	100%

Table No-1 shows incidence of DUB in various age groups in present study. Largest number of patients were in age group 31-40 years (48.3%) followed by 41-50 years (32%).

Table 2: Incidence of Menstrual Disorders in DUB

Menstrual Disorders	No of cases	Percentage (%)
Menorrhagia	220	73.3%
Polymenorrhoea	22	7.3%
Metrorrhagia	41	13.7%
Oligomenorrhea	05	1.7%
Postmenopausal bleeding	12	4.0%
Total	300	100%

Table No-2 shows incidence of various menstrual disorders in present study, from above table it is evident that maximum incidence was of menorrhagia (73.3%) followed by metrorrhagia (13.7%).

Table 3: Endometrium pattern among various age groups

ENDOMETRIAL PATTERN	AGE (YEARS)										Total
	≤20 Yrs		21-30 yrs		31-40 yrs		41-50 yrs		51-60 yrs		
	No.	%	No.	%	No.	%	No.	%	No.	%	No.
Proliferative phase	02	100 %	24	53.4 %	62	42.8 %	37	38.5 %	-	-	125
Secretory phase	-	-	17	37.8 %	49	33.8 %	24	25%	-	-	90
Simple hyperplasia	-	-	02	4.4 %	22	15.2 %	16	16.7 %	03	25%	43
Complex hyperplasia	-	-	-	-	05	3.4 %	11	11.4 %	02	16.6 %	18
Atypical hyperplasia	-	-	-	-	02	1.4 %	-	-	01	8.4 %	03
Atrophic	-	-	-	-	01	0.7 %	08	8.4 %	06	50%	15
Menstrual changes	-	-	-	-	04	2.7 %	-	-	-	-	04
Ariastella Reaction	-	-	02	4.4 %	-	-	-	-	-	-	02
Total	02	100 %	45	100 %	145	100 %	96	100 %	12	100 %	300

Table No -3 shows histological pattern of endometrium among different age groups.

For age group ≤ 20 years, there were 2 cases of proliferative phase. Between age group 21-30 years, there were 45 cases. Out of which, 24 cases (53.4%) of proliferative phase, 17 cases (37.8%) of secretary phase, 2 cases (4.4%) of simple hyperplasia and 2 cases (4.4%) of Ariastell reaction.

Between age group 31-40 years, there were 145 cases. Out of which, 62 cases (42.8%) of proliferative phase, 49 cases (33.8%) of secretary phase, 22 cases (15.2%) of simple hyperplasia, 5 cases (3.4%) of complex hyperplasia, 2 cases (1.4%) of Atypical hyperplasia, 4 cases (2.7%) of endometrium with menstrual changes and 1 case (0.7%) of Atrophic endometrium.

Between age group 41-50 years, there were 96 cases. Out of which, 37 cases (38.5%) of proliferative phase, 24 cases (25%) of secretary phase, 16 cases (16.7%) of simple hyperplasia, 11 cases (11.4%) of complex hyperplasia and 8 cases (8.4%) cases of atrophic endometrium.

Between age group 51-60 years, there were 12 cases. Out of which, 6 cases (50%) of atrophic endometrium, 3 cases (25%) of simple hyperplasia, 2 cases (16.6%) of complex hyperplasia and single case (8.4%) of atypical hyperplasia.

Table-4: Incidence of types of hyperplasia associated with DUB

TYPES OF HYPERPLASIA	NUMBER OF CASES	PERCENTAGE (%)
Simple	44	67.7%
Complex	18	27.7%
Atypical	03	4.6%
Total	65	100

Table-No 4 shows incidence of types of hyperplasia associated with DUB. In present study classification of endometrial hyperplasia is based on WHO classification of endometrial hyperplasia 2003). Most common finding was simple hyperplasia (67.7%), followed by complex hyperplasia (27.7%). Atypical hyperplasia was found in 4.6% cases only.

DISCUSSION:

TABLE 5 – Age incidence comparison with other studies

AGE (Years)	Sutherland et al.[9] (%) (848cases)	Muhammad et al.[10] (%) (260 cases)	Rajesh patil et.al [11] (%) 2013 (190 cases)	Present study (%) (300 cases)
≤20	3.9%	-	3.68%	0.7%
21-30	22.5%	12.7%	20.53%	15%
31-40	34.5%	39.2%	45.26%	48.3%
41-50	37.7%	48.1%	25.79%	32%
51-60	1.6%	-	4.74%	4%

Table No-5 shows age incidence comparison with other studies in dysfunctional uterine bleeding patients. Present study shows maximum number of patients were in age group 31-40 years (48.3%) . 32% patients belonged to age group 41-50 years and 4% patients belonged to age group 50-60 years, 15% belonged to age group 21-30 years and 0.7% belonged to ≤20 years age group, which is comparable to other studies. Low incidence was found in 20 or less age group (0.7%); however actual incidence of DUB is not low in this age group. They are treated on conservative (hormonal) basis and most often they are unmarried and they do not undergo endometrial sampling.

Table 5: Endometrial pattern comparison with other studies

ENDOMETRIAL PATTERN	SANAULLAH et al STUDY[12]		R.K.NARULA et al STUDY[13]		PRESENT STUDY	
	No.	%	No.	%	No.	%
Proliferative phase	31	31%	83	37.77%	125	41.7%
Secretary phase	43	43%	79	35.95%	90	30%
Hyperplasia	11	11%	46	20.90%	64	21.3%
Atrophic	-	-	12	5.48%	15	5%
Others	15	15%	-	-	06	2%
Total	300	100%	220	100%	100%	100%

Table No-5 . Proliferative pattern was commonest in present study (41.7%) which was nearly comparable with R. K. Narula et al study.[13] It is evident from above table that large proportions of patients showed proliferative phase followed by secretary phase. Incidence of hyperplasia was comparable to R. K. Narula et al study.[13]

Table 6: Comparison of incidence of types of hyperplasia with other studies

TYPES OF HYPERPLASIA	SANAULLAH et al STUDY[12]		MUHAMMAD et al STUDY[10]		PRESENT STUDY	
	No.	%	No.	%	No.	%
Simple	09	81.82%	39	60.93%	44	67.7%
Complex	02	18.18%	22	34.39%	18	27.7%
Atypical	-	-	03	4.68%	03	4.6%
Total	11	100%	64	100%	65	100%

Table No-6 shows comparison of endometrial hyperplastic pattern with other studies. In present study, maximum number of patients (67.7%) had simple hyperplasia of endometrial which was comparable with other studies. In our study atypical hyperplasia was less common (4.6%) which was also comparable with Muhammad et al study.[10] Overall findings show that simple hyperplasia was more common than complex hyperplasia and incidence of atypical hyperplasia was very low.

CONCLUSION AND SUMMARY:

1) 300 cases of DUB were studied clinically and histopathologically.

2) Patients belonging to various age group were studied. Maximum numbers of DUB patients were in age group 31-40 years (48.3%) while minimun incidence was in age group ≤ 20 years (0.7%).

3) Most common bleeding pattern encountered in DUB was menorrhagia. 73.3% patients presented with menorrhagia, followed by metrorrhagia which was seen in 13.7 % of cases.

4) In present, study large proportion of patients with DUB showed

proliferative endometrial pattern (41.7%) followed by secretory phase (30%). Hyperplastic pattern was seen in 21.3% of patients.

5) Non hyperplastic endometrial pattern was more common than hyperplastic pattern. Simple hyperplasia was more commonly seen than complex and atypical hyperplasia. Overall incidence of atypical hyperplasia was very low (4.6%) and atrophic endometrium seen in 5% of cases. Rest (2%) of the cases labelled as others show menstrual changes and ariastella reaction.

6) Atrophic endometrium was common finding in >40 years age group as a cause of DUB.

7)Total 12 patients were studied in postmenopausal state (51-60 years), out of which 6 had atrophic endometrium and 6 had hyperplasia of endometrium.

8) Histopathological study of endometrium is very useful to reveal different endometrial patterns in DUB and to distinguish between anovulatory ovulatory DUB.

10) It is also useful for the diagnosis of endometrial hyperplasia and endometrial carcinoma.

11) It is important to evaluate each and every case of DUB histologically to exclude organic pathology which mimics dysfunctional uterine bleeding like endometrial polyp, chronic endometritis or endometrial carcinoma etc.

Source of funding: self

References:

1) Juhi S, Ruchika B, Vinay B, Tanya S, Rani B, Shashi U, Richa K. A study of spectrum of morphological changes in endometrium in abnormal uterine bleeding. JARBS 2013; 5(4):370-75.
2) Ratnam SS, Bhaskar Rao K, Arulkumaran S. Obstetrics & Gynecology for Postgraduate. 2nd Edition, Vol. 1, Orient Longman Pvt. Ld., 2005; 258-269.
3) Davey DA. Dysfunctional uterine bleeding. In: Dewhurst's Textbook of Obstetrics & Gynecology for Postgraduates ed. By Charles R.Whitefield, 5th Edition; Oxford Blackwell Science, 1995; 590-608.
4) Solapurkar ML. Endometrial spectra in women at different ages. J Obstet Gynecol India. 1986; 36:139-143.
5) Yusuf NW, Nadeem R, Yusuf AW. Dysfunctional Uterine Bleeding: A Retrospective ClinicomorphologicalStudy over Two Years. Pak J Obstet Gynaecol1996; 9(1): 27-30.
6) Dangal G. A study of endometrium in patients with abnormal uterine bleeding at chitwan valley. Kathmandu Univ Med J 2003; 1(2):110-12.
7) Juhi S, Ruchika B, Vinay B, Tanya S, Rani B, Shashi U, Richa K. A study of spectrum of morphological changes in endometrium in abnormal uterine bleeding. JARBS 2013; 5(4):370-75.
8) Mehta K, Jalandhara J, Kumawat A. Histopathological study of endometrium in dysfunctional uterine bleeding. International Journal of Medical and Health Research 2018;4(12):76-78
9) Sutherland AM. Recent Advances in Obstetrics and Gynecology, 1962; 365- 381.
10) Muhammad Muzaffar, Khalida Adeeb Khanam akhtar, Shahina Yasmin, Mahmood-ur-Rehman, Wasim Iqbal: Menstrual irregularities with excessive blood loss; a clinic-pathological Correlation. JPMA, 2005;55-486.
11) Rajesh patil et.al International Journal of Biological & Medical research, original article: Histopathological spectrum of endometrium in DUB; 2013 ;4(1): 2798-2801
12) Sanaullah Gazozai, Qurban Ali Bugti, Ayesha Siddique, Naila Ehsan,. Excessive uterine haemorrhage- A Histopathological Study.Gomal Journal of Medicine Sciences. Jan-June 2004; 2(1): 13-15.
13) R.K.Narula. Endometrial histopathology in DUB. Journal of Obstetric & Gynecology of India. 1967; 17;614-18.