



Contents lists available at BioMedSciDirect Publications

## International Journal of Biological & Medical Research

Journal homepage: [www.biomedscidirect.com](http://www.biomedscidirect.com)



### Original Article

## Histopathological spectrum of endometrium in dysfunctional uterine bleeding

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#### ARTICLE INFO

##### Keywords:

Dysfunctional Uterine Bleeding

Menorrhagia

Endometrial hyperplasia

#### ABSTRACT

**Abstract:** Dysfunctional Uterine Bleeding (DUB) is one of the most common and significant gynaecological complaints seen in about 10-15% of women attending a gynaecological clinic. DUB is excessive abnormal bleeding from the endometrium that is unrelated to any anatomic lesions of the genital tract. The largest incidence of DUB is in the women of the childbearing age group and menorrhagia was more common in that age group. The objective was to study histopathological patterns of endometrium in DUB and clinicopathological correlation. Total 190 cases diagnosed as DUB are included. The commonest age group was 31-40 years (45.26%) and is seen most commonly in the multiparous women (71.58%). Menorrhagia was the commonest bleeding pattern found in 139 (73.16%) cases. Histopathologically commonest endometrial pattern associated with DUB is endometrial hyperplasia seen in 76 (46%) cases followed by proliferative endometrium in 42 (22.10%) cases. No age was exempted from DUB. Menorrhagia was the commonest bleeding pattern.

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### 1. 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 strings", thus manipulated throughout life by changing levels of ovarian hormones.<sup>1,8</sup>

The endometrium is an endocrine organ that responds to circulating blood levels of estrogen and progesterone. Cyclical uterine bleeding, which begins anatomically and physiologically normal female, marks an important stage of reproductive maturation.<sup>2,4</sup>

Dysfunctional Uterine Bleeding (DUB) is one of the most common and significant gynecological complaints and is seen in about 10-15% of women attending a gynecological clinic<sup>5</sup>

DUB is defined as excessive abnormal bleeding from the endometrium that is unrelated to any anatomic lesions of the genital tract.<sup>3</sup> There is no demonstrable organic pathology. It is important to exclude organic pelvic diseases, systemic disease and complication of pregnancy.

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. Hence, we report study of 190 cases with detailed clinicopathological features.

### 2. Materials and methods

The three years study from June 2005 to June 2008 included 190 cases of endometrial samples obtained from patients clinically diagnosed as DUB who attended OPD or admitted in Basaveshwar Teaching and General Hospital, Sangameshwar Hospital, Gulbarga and Govt. General Hospital, Gulbarga.

**Sampling Procedure-** The endometrial samples obtained from endometrial biopsy or from Dilatation & Curettage for therapeutic

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or diagnostic purpose is fixed in 10% formalin for 12-24 hours and the entire tissue was taken for routine processing. 4-5  $\mu$  m thickness sections taken from paraffin blocks were stained with Haematoxylin and Eosin (H&E) and studied under light microscopy.

**Inclusion Criteria:** Endometrial tissue from patients of all age groups clinically diagnosed as DUB. Normal ovulatory DUB, Anovulatory DUB like – insufficient follicular development and persistent ovarian follicle and Ovulatory DUB like – corpus luteum insufficiency and persistent corpus luteum.

**Exclusion Criteria:** Patients presenting with DUB due to pregnancy related complications, Organic lesions involving the genital tract infections, systemic causes, iatrogenic causes, polyps and other lesions and Hysterectomy specimens are excluded from this study.

### 3. Results

During the period of three years from June 2005 to June 2008, the total 190 endometrial samples were received. Minimum age at presentation of DUB is 18 years and maximum age at presentation is 54 years (Table-1). The maximum incidence of DUB was seen in multipara (i.e. 1-3) 71.58 followed by grand multipara 14.21%. The minimum incidence was seen in nullipara 4.74% (Table-2).

**Table-1: Age wise distribution of cases**

Age group (years)	No. of patients	Percentage
< 20	7	3.68
21–30	39	20.53
31–40	86	45.26
41–50	49	25.79
>50	9	4.74
Total	190	100.00

**Table-2: Relationship of DUB with parity**

Parity	No. of patients	Percentage
Nullipara	9	4.74
Primipara	18	9.74
Multipara (1-3)	136	71.58
Grand multipara (>4)	27	14.21
Total	190	100.0

Menorrhagia was the commonest bleeding pattern seen in 139 patients (73.16%) out of 190 patients followed by metrorrhagia seen in 16 patients (8.42%) (Table-3).

The patterns of endometrium in background of DUB were evaluated and given in Table-4.

**Table-3: Various Bleeding pattern seen in DUB**

Bleeding pattern	No. of patients	Percentage
Menorrhagia	139	73.16
Metrorrhagia	16	8.42
Meno Metrorrhagia	09	4.74
Polymenorrhagia	14	7.37
Polymenorrhoea	12	6.31
Total	190	100.00

**Table-4: Endometrial patterns in DUB**

Type of endometrial	No. of patients	Percentage
Proliferative endometrium	42	22.10
Secretory endometrium	37	19.47
Irregular ripening	31	16.32
Endometrial hyperplasia	76	40.00
Cystoglandular hypertrophy	62	32.63
Adenomatous hyperplasia	11	5.79
Atypical hyperplasia	3	1.58
Adenocarcinoma	2	1.05
Secretory hyperplasia	1	0.53
Aria Stella reaction	1	0.53
Total	190	100.00

### 4. Discussion

Dysfunctional uterine bleeding continues to be one of the most frequently encountered and significant problem in gynecological practice.<sup>2</sup> It may occur at any age from puberty to menopause and it may occur with any type of endometrium. Its etiology and management vary greatly in different age groups. Therefore, it is important to understand etiopathology in different age groups and effect of parity.<sup>3</sup>

Earlier it was believed that DUB occurs more frequently at the extremes of ages of a women's reproductive year. Various studies subsequently came out with different results<sup>8</sup>

Kanakadurgamba et al (1964) and Nirmala AVK (1991), Pilli et al (2002) and Mitra (2003) were found high incidence in 21-40 years of age; present study showed similar results.

Highest incidence of DUB in multiparous women in present study was the concordant results by various previous authors such as Joshi SK & Deshpande DH (1964), Mehrotra et al (1992) and Pilli et al (2002).

In the present study menorrhagia was the commonest bleeding pattern seen in 139 (73.16%) patients. The values are nearer to the values found in Mehrotra VG et al. (1992) and Pilli et al (2002).

Present study found highest incidence of DUB was noted in the multiparous women than in nulliparous or primipara which is in concordance with the other studies by Joshi SK & Deshpande DH (1964), Mehrotra et al (1992) and Pilli et al (2002).

**Table 5: Incidence of different histopathological patterns of endometrium in DUB by various authors**

Endometrial pattern	Dass A & Chugh (1964) <sup>1</sup>		Joshi SK & Deshpande DH (1964)		Kanakadurgamba & Srinivas Rao (1964)		Bhargava H & Shashi Gupta (1979)		Pilli GS et al (2002)		Present Study	
	No.	Percent	No.	Percent	No.	Percent	No.	Percent	No.	Percent	No.	Percent
Proliferative endometri	46	41.5	147	54.00	51	34.00	47	47.00	34	34.00	42	22.10
Secretary	25	22.50	--	--	6	4.0	27	27.00	13	13.00	37	19.47
Irregular ripening of endometrium	2	1.8	10	3.6	--	--	--	--	--	--	31	6.32
Irregular shedding	2	1.8	19	6.9	--	--	8	8.00	2	2.00	--	--
Endometrial	34	30.6	87	31.7	93	61.9	18	18.00	44	44.00	76	40.00
Adenocarcinoma of	--	--	--	--	--	--	--	--	--	--	2	1.05
Area stela reaction	--	--	--	--	--	--	--	--	2	2.00	1	0.53
Secretary hyperplasia	--	--	--	--	--	--	--	--	--	--	1	0.53
Atrophic endometrium	2	1.8	7	2.4	--	--	--	--	--	--	--	--
Chronic endometritis	--	--	4	1.4	--	--	--	--	--	--	--	--
Pill endometrium	--	--	--	--	--	--	--	--	2	2.00	--	--
Products of conception	--	--	--	--	--	--	--	--	2	2.00	--	--
Endometrial polyp	--	--	--	--	--	--	--	--	1	1.00	--	--
Total	111		274		150		100		100		190	

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