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Histopathological Spectrum of Endometrium in Dysfuctional Uterine Bleeding With Respect to Age, Parity and Bleeding Pattern

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Abstract

The largest incidence of DUB is in the women of the childbearing age group and menorrhagia was more common in that age group. It is classified into: Anovulatory (90%) and ovulatory DUB (10%). This study includes 190 cases clinically diagnosed as DUB who are attending OPD or admitted during period of June 2005 to June 2008. Endometrial samples were fixed in 10% formalin and routine processing was done. Paraffin block sections were stained with H&E. 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. No age was exempted from DUB. Menorrhagia was the commonest bleeding pattern. Endometrial hyperplasia and proliferative endometrium are the commonest endometrial patterns observed.

Key Words: Age; Parity; Bleeding; Endometrium; Dysfuctional Uterine Bleeding

1. Introduction

DUB is defined as excessive abnormal bleeding from the endometrium that is unrelated to any anatomic lesions of the genital tract. There is no demonstrable organic pathology. It is important to exclude organic pelvic diseases, systemic disease and complication of pregnancy [1].

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, this study is conducted. The objective of present study is to correlate histopathological pattern of DUB with age, parity and bleding pattern in women clinically diagnosed as DUB.

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.

The endometrial samples obtained from endometrial biopsy or from D&C for therapeutic or diagnostic purpose is fixed in 10% formalin for 12-24 hours and the entire tissue was taken for routine processing. 5µ thickness sections taken from paraffin blocks were stained with Haematoxylin and Eosin (H&E) and studied under light microscopy.

3. Results

Majority of the patients were between the 21-50 years of age. In 21-30 years of age – 13 cases (30.95%), in 31-40 years age 14 cases (33.33%) and in 41-50 years age 11 cases (26.20%) (Table-1).

Table-1: Age distribution for Proliferative Endometrium

Age group (years)	No. of patients	Percentage
< 20	2	4.76
21 – 30	13	30.95
31 – 40	14	33.33
41 – 50	11	26.20
>50	2	4.76
Total	**42**	**100.00**

Table-2: Bleeding pattern for Proliferative endometrium

Bleeding pattern	No. of patients	Percentage
Menorrhagia	32	76.19
Metrorrhagia	3	7.14
Meno Metrorrhagia	1	2.38
Polymenorrhagia	4	9.53
Polymenorrhoea	2	4.76
Total	**42**	**100.00**

The table-2 shows type of bleeding pattern in 42 cases of proliferative endometrium. Menorrhagia was the commonest bleeding pattern seen in 32 cases (76.19%).

Secretory Endometrium:

Out of 190 cases, 37 cases showed secretory phase of endometrium. Out of 37 cases, 18(48.65%) were in early secretory phase and 7(18.92%) were in mid secretory phase and 12(32.43%) were in late secretory phase The maximum number of patients between the age group 31-40 years were 17 (45.95%) followed by 21-30 years (40.54%). (Table-3).

Table-3: Age distribution for Secretory endometrium

Age group (years)	No. of patients	Percentage
< 20	3	8.11
21 – 30	15	40.54
31 – 40	17	45.95
41 – 50	2	5.40
>50	--	--
Total	**37**	**100.00**

Table-4: Bleeding pattern in Secretory Endometrium

Bleeding pattern	No. of patients	Percentage
Menorrhagia	30	81.08
Metrorrhagia	3	8.11
Meno Metrorrhagia	2	5.41
Polymenorrhagia	1	2.70
Polymenorrhoea	1	2.70
Total	**37**	**100.00**

Menorrhagia was the commonest bleeding pattern seen in 30 (81.08%) patients (Table-4).

Irregular Ripening of Endometrium: Irregular ripening of endometrium seen in 31 (16.32%) patients out of 190 patients. Maximum number of patients were between the age group 31-40 i.e., seen in 16 patients (51.61%) followed by 41-50 years of age (35.48%) (Table-5).

Menorrhagia was the commonest bleeding pattern seen in 17 (54.84%) patients out of 31 patients followed by polymenorrhea seen in 6 (19.36%) patients (Table-6).

Table-5: Age distribution for irregular ripening of endometrium

Age group (years)	No. of patients	Percentage
< 20	1	3.23
21 – 30	3	9.68
31 – 40	16	51.61
41 – 50	11	35.48
>50	--	--
Total	**31**	**100.00**

Table-6: Bleeding pattern in irregular ripening of endometrium

Bleeding pattern	No. of patients	Percentage
Menorrhagia	17	54.84
Metrorrhagia	4	12.90
Meno Metrorrhagia	2	6.45
Polymenorrhagia	2	6.45
Polymenorrhoea	6	19.36
Total	**31**	**100.00**

Carcinoma of Endometrium: Carcinoma endometrium is seen in 2 patients (1.05%), out of 190 patients. One patient was age 35 years and presented with history of menorrhagia. Other patients were aged 54 years with history of menorrhagia and white discharge. Both were histologically diagnosed as well differentiated adenocarcinoma.

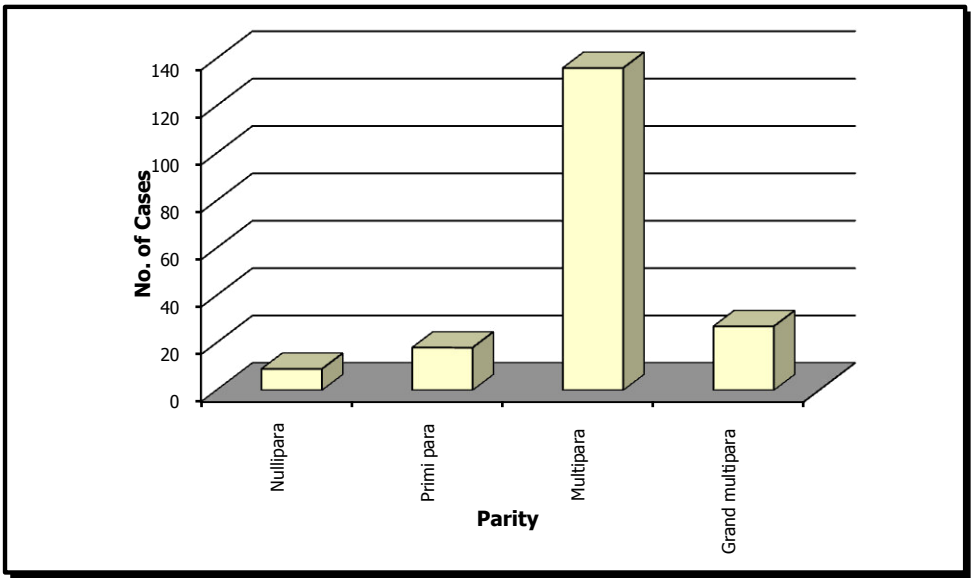

Figure 1: Relationship of DUB with Parity

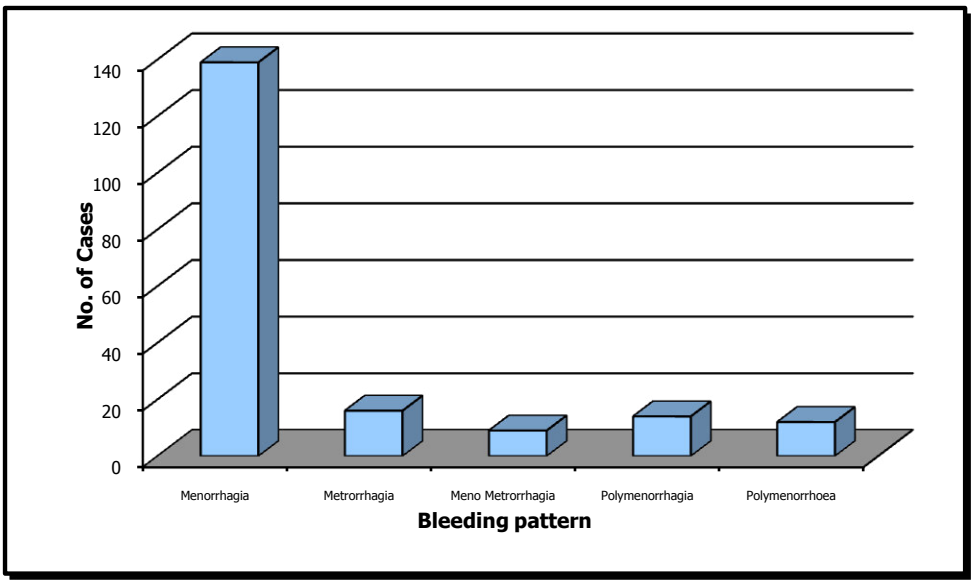

Figure 2: Bleeding pattern in DUB

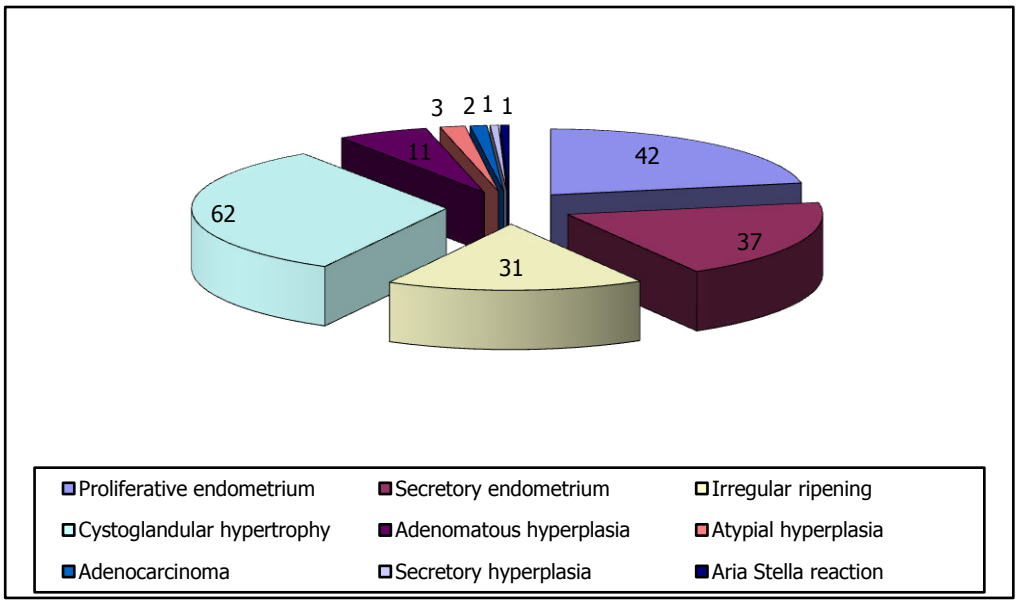

Figure 3: Endometrial pattern in DUB

The commonest type of endometrial pattern encountered was endometrial hyperplasia seen in 76 (40%) patients. Among endometrial hyperplasia, cystoglandular hyperplasia was the commonest type seen in 62 (32.63%), followed by adenomatous hyperplasia without atypia seen in 11 (5.79%) patients.

Proliferative endometrium was the next commonest type of endometrial pattern seen in 42 (22.10%) patients following endometrial hyperplasia.

Secretory endometrium was seen in 37 (19.47%) patients. Irregular ripening was seen in 31 (16.32%) patients, endomentrial carcinoma was seen in 2 (1.05%) patients. Secretory hyperplasia in 1 (0.53%) and Aria Stella reaction in 1 (0.53%) patient.

Age distribution and bleeding pattern for CGH: Out of 190 cases endometrial hyperplasia was seen in 77 cases of which 62 were CGH. The table: 7 shows bleeding pattern in 62 cases of CGH. Menorrhagia was the commonest bleeding pattern in CGH seen in 43 (69.35%) out of 62 patients.

Proliferative endometrium: Out of 190 cases, proliferative endometerium was seen in 42 (22.10%) cases.

Table-7: Bleeding pattern for CGH

Bleeding pattern	No. of patients	Percentage
Menorrhagia	43	69.35
Metrorrhagia	5	8.06
Meno Metrorrhagia	4	6.45
Polymenorrhagia	7	11.30
Polymenorrhoea	3	4.84
Post menopausal bleeding	**62**	**100.00**

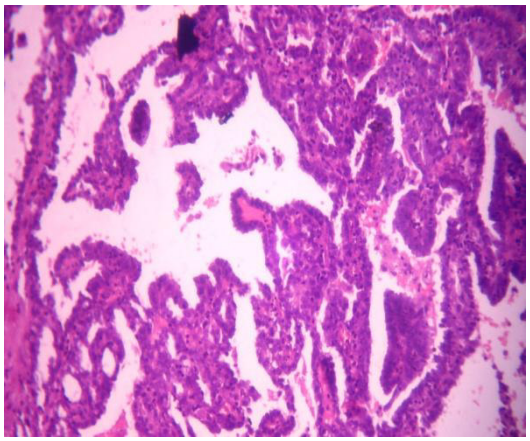

Figure4: Microphotograph showing well differentiated adenocarcinoma of endometrium (H&E, X100)

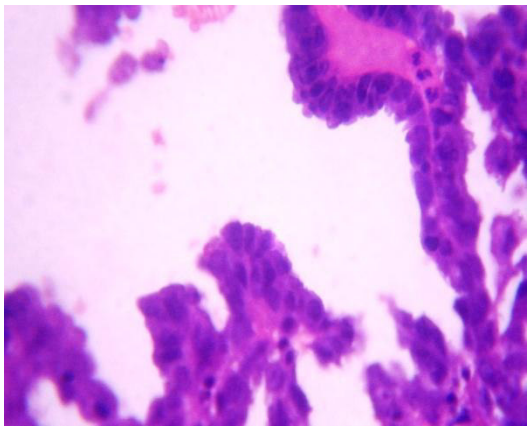

Figure 5: Microphotograph showing well differentiated adenocarcinoma of endometrium (H&E, X400)

4. Discussion

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 results, which showed different age group distribution of DUB.

Table-8: Age Incidence of Patients with DUB

Authors	No. of patients	<20 years	21-30 years	31-40 years	41-50 years	>50 years
Sutherland[2] (1949)	861	33 (3.9%)	194 (22.5%)	295 (34.3%)	325 (37.7%)	14 (1.6%)
			56.8%			
Dass A and Chugh S[3] (1964)	117	17 (14.53%)	24 (20.51%)	33 (28.21%)	38 (32.5%)	5 (4.3%)
			48.7%			
Kanakadurgama K and Srinivas Rao K[4] (1964)	150	22 (14.67%)	66 (44%)	38 (25.33%)	24 (16%)	14 (1.6%)
			69.3%			
Wagh KV and Swamy[5] (1964)	552	97 (17.6%)	215 (39.0%)	143 (26%)	94 (17.03%)	3 (0.54%)
			65%			
Mehrotra VG et al[6] (1972)	150	15 (10%)	72 (48%)	35 (23.33%)	25 (16.67%)	3 (2%)
			71.3%			
Nirmala AVK[7] (1991)	6125	205 (3.35%)	4553 (74.01%)	1349 (22.02%)	18 (0.29%)	
			96.03%			
Allahbadia G [8] (1992)	50	20 (40%)	16 (32%)	10 (20.0%)	4 (8%)	
			52%			
Pilli GS et al [9] (2002)	100	2%	58%		38%	2%
			58%			
Mitra KMK, Chowdhary[10] (2003)	100	10 (10%)	26 (26%)	62 (62%)	2 (2%)	
			88%			
Present study	190	7 (3.68%)	39 (20.53%)	86 (45.26%)	49 (25.79%)	9 (4.74%)
			65.79%			

Sutherland [2] (1949) and Das A (1964) found that high incidence of DUB in the age group of 41-50 years. Kanakdurgamba et al [4] (1964) and Nirmala AVK [7] (1991) , Pilli et al [9] (2002) and Mitra [10] (2003) were found high incidence in 21-40 years of age.

Hence, it was observed that no age is exempted from DUB. In the present study, incidence of DUB in the age group of 21-30 years i.e.65.79%, followed by 41-50 years (25.79%). Highest incidence was noted in the age group of 21-40 years which is similar to the above studies.

Table-9: Incidence of Parity in DUB

Authors	Total No. of patients	Nulli para	Primi para	Multi para
Bhattacharji [11] (1964)	164	31 (19%)	--	133 (81%)
Mehrotra [6] (1992)	150	30 (20%)	--	120 (80%)
Joshi SK & Deshpande DH [23] (1964)	208	54 (26%)	26 (13%)	128 (61%)
Pilli et al [9] (2002)	100	6%	7%	87%
Present study	190	9 (4.74%)	18 (9.47%)	163 (85.79%)

Various studies as shown in the above table found highest incidence of DUB in multiparous women. In the present study, incidence of DUB in nulliparous is 4.89%, in primipara 9.78% and 85.33% in multipara.

Hence, the highest incidence of DUB was noted in the multiparous women than in nulliparous or primipara which is in concordance with the other studies.

Table-10: Comparative incidence of type of Bleeding in DUB cases

Authors	Total No. of patients	Meno-rrhagia	Menome-trorrhagia	Metro-rrhagia	Polyme-norrhea	Polyme-norrhagia	Bleeding following ameno-rrhea	Prolonged continuous bleeding	Irregular bleeding
Kanaka-durgamba K and Srinivasrao K [4] (1964)	150	6 (4%)	--	--	5 (3.3%)	--	24 (16%)	54 (36%)	61 (40.6%)
Ghosh BK and Sen Gupta KP [13] (1968)	50	19 (3.8%)	11 (22%)	--	--	--	--	3 (6%)	17 (34%)
Mehrotra VG et al [6] (1972)	150	78 (52.3%)	29 (19.4%)	--	11 (7.3%)	28 (18.6%)	--	Post menopausal bleeding 4 (2.6%)	
Pilli GS et al [9] (2002)	100	34%	18%	23%	11%	--	14%	--	--
Present study	190	139(73.16%)	16(8.42%)	9(4.74%)	14(7.37%)	12(6.31%)	-	-	-

Incidence of Bleeding Pattern in DUB: Various studies like Ghosh BK and Sen Gupta KP [13] (1968), Mehrotra et al [6] (1972) and Pilli et al [9] (2002) reported that menorrhagia is the commonest bleeding pattern in 38%, 52.3% and 34% of DUB patients respectively, whereas Kanandurgamba [4] found irregular bleeding is the commonest bleeding pattern in 61(40.6%) patients and menorrhagia in only 6(4.0%) patients.

Among the 76 cases of endometrial hyperplasia, CGH was the most common in the present study forming about 62 cases (81.58%) in the total of 76 cases of endometrial hyperplasia, 11 were adenomatous hyperplasia, complex hyperplasia without atypia (14.47%) and 3 were atypical hyperplasia (3.95%).

Endometrial Carcinoma: Wagh K and Swamy V [5] (1964) reported 1.5% incidence of endometrial carcinoma in their series. Solapurkar ML [14] (1986) found 7 (2.45%) patients diagnosed as adenocarcinoma of endometrium. One patient was below 35 years of age (14.28%), 4 patients were above 55

years (55%), 2 cases were between 46 and 55 years (28.57%).

In the present study, two (1.05%) cases were diagnosed as carcinoma endometrium. One patient was aged 35years of age and presented with menorrhagia. Other patient was diagnosed in 54 years of age presented with history of white discharge and menorrhagia. Histologically both are well differentiated adenocarcinoma.

Conclusion

During the three years study from June 2005 to June 2008, the total numbers of endometrial samples received are 190 from patients who were clinically diagnosed as DUB. The patients were evaluated according to age, parity, bleeding pattern and endometrial histopathology. Patients belonged to different age groups. The youngest age was 18 years and oldest age was 54 years. The maximum incidence of DUB i.e., 45.26% was noticed in 31-40 years of age group (42.26%). The patients belonging to various types of parity were studied. Maximum incidence of DUB was seen in multipara (1-3) 71.58% and minimum incidence of DUB in nullipara (4.74%). Adenocarcinoma of endometrium was seen in two (1.05%) cases. One was diagnosed as Arias stella reaction and patient was aged 37 years and presented with menorrhagia. One was diagnosed as secretory hyperplasia.

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