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A study on histopathological changes of endometrium in women with dysfunctional uterine bleeding from a tertiary care hospital

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Abstract
Introduction: To understand the pathogenesis of dysfunctional uterine bleeding by noting different types of Histopathological changes of endometrium by dilatation and curettage.
Materials and Methods: In this study 100 women with complaints of abnormal uterine bleeding selected from OBG OPD of tertiary care hospital.
Results: In this study among 100 women, 19 women had proliferative endometrium, 5 women had secretory endometrium, 10 women had irregular ripening, 14 women had irregular shedding and 52 women cystoglandular hyperplasia.
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

Many authors defined dysfunctional uterine bleeding in different ways. Kistner [1] applies the term to abnormal bleeding in which organic lesions cannot be recognized by ordinary means. Ackerman [2] 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 [3] 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". In 1955 Jeffcoate [5] classified the dysfunctional uterine bleeding into ovular and anovular types.

1. Ovular haemorrhages:
   A. Functional epimenorrhagia and epimenorrhoea
   B. Functional Menorrhagia
      i. Irregular ripening of the endometrium
      ii. Prolonged or irregular ripening of the endometrium.

2. Anovular haemorrhage:
   A. Threshold bleeding
   B. Metropathia haemorrhagica

In 1907, Hitchman and Adler [6] made a very significant contribution that the endometrium is a cyclic tissue undergoing biphasic changes. These findings were soon confirmed by Robert Schroder [7] in 1911-12. A new observation by him was the distinction between the non-changeable basal layer of the endometrium and a superficial functioning layer. In 1912-13, the cyclic endometrial changes were correlated to the changes in the ovary, namely follicle and corpus luteum formation. However the classical dating of the endometrium was done by Noyes *et al* in 1950. In 1915-20 Robert Schroder formulated his theory of "persistent ripening follicle" in cases of abnormal uterine bleeding and gave the name "metropathia haemorrhagica" to the clinical condition also has Shorder's disease. Following this, it was believed that abnormal bleeding was invariably associated with endometrial hyperplasia Several anatomic studies appeared during the twenties especially by Novak, O'Leary, Bartelmez and wilfredshaw. Novak in 1924 suggested the term "Swiss cheese" hyperplasia and since then it has been widely used in the literature.

This study is also aimed at studying the changes in endometerium and correlating with the causes of dysfunctional uterine bleeding.

Table 1: Studying the changes of endometrium and comparing them with the causes of dysfunctional uterine bleeding started in last century.

VHO	Vellios	Gore & Hertig	Gusberg and Kaplan	Campbel and Barter	Beutler and Dockerty
Cystic Hyperplasia	Cystic Hyperplasia	Cystic Hyperplasia	Mild adenomatous hyperplasia	Benign Hyperplasia	Cystic Proliferation
	Adenomatous Hyperplasia	Adenomatous Hyperplasia	Moderate Adenomatous Hyperplasia	Atypical Hyperplasia Type - I	Glandular hyperplasia
Adenomatous Hyperplasia	Atypical Hyperplasia	Anaplasia		Atypical Hyperplasia - Type II	
Atypical Hyperplasia	Carcinoma in situ	Carcinoma in situ	Marked Adenomatous Hyperplasia	Atypical Hyperplasia - Type III	Glandular hyperplasia with atypical epithelial Proliferation

Materials and Methods: In this study 100 women with complaints of abnormal uterine bleeding were selected from OBG OPD of a tertiary care Hospital.

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

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.

Table 2: Distribution of 100 Dub Cases According To Age

Total No. of Cases	Age (In Years)					
	16-20	21-25	26-30	31-35	36-40	41-45
100	3	22	20	18	32	5
Percentage	3	22	20	18	32	5

The above column showing DUB cases in different age groups. In between the age group of 16-20 years 3 cases were seen, 21-25 years age group 22 cases were seen, 26-30 years age group 30 cases were seen, 31-35 years age group 18 cases were seen, 36-40 years 32 cases were seen, and in between 41-45 years 5 cases were seen. So the maximum incidence were 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 3: Correlation study of bleeding pattern in relation to endometrial pattern in 100 dub cases

Bleeding Pattern	Prolif-Erative	Secretory	Irregular Ripening	Irregualr Shedding	C.G.H	Total
Menorrhagia	13(32.5)	3(7.5)	4(10.0)	3(7.5)	17(42.5)	40
Poly-Menorrhagia	1(5.2)	1(5.2)	3(15.8)	2(10.5)	12(63.3)	19
Poly Menorrhoea	1(6.7)	-	2(13.3)	4(26.7)	8(53.3)	15
Metropathia Hemorrhagica	4(15.4)	1(3.8)	1(3.8)	5(19.3)	15(57.7)	26
Total	19	5	10	14	52	100

Discussion

Dysfunctional uterine bleeding is one of the most frequently encountered conditions in gynaecological practice. DUB may present at any age between puberty and menopause and it may occur with any type of endometrium. In study by Sutherland, Anasuya, and Ghosh reported the maximum incidence of 36.2%, 32.5%, 46% respectively in the 5th decade.

Table 4: Percentage of Endometrial Pattern

Study	No. of Cases	Noramal	Hyperplasia	Irregualr Shedding	Irregualr Ripening
Sutherland	100	54.7%	26.50%	1.5%	3.0%
Joshi & Deshapande	100	69%	31.25%	6.9%	3.6%
Anasuya Dass	100	64%	30.60%	1.8%	-
Bhattacharji	100	63.5%	29.20%	NIL	NIL
Present Study	100	24%	52%	10%	14%

In the study conducted by Sutherland normal Endometrial pattern is seen in 54.7% of cases, Hyperplasia is seen in 26.50%, irregular shedding is seen in 1.5% of cases and irregular ripening is seen in 30% cases. In a study conducted by Joshi & Deshapande 69% had normal endometrium, 31.25% had hyperplasia, Irregular shedding is seen in 6.9% of cases and 3.6% had irregular ripening. Study by Anasuya Dass showed 64% of cases with normal Endometrium, 30.60% of cases with hyperplasia, 1.8% with irregular shedding. In a study by Bhattacharji 63.5% had normal Endometrium, 29.20% had hyperplasia. Whereas present study 24% women had normal Endometrium, 52% had endometrial hyperplasia, 10% had irregular shedding and 14% had irregular ripening.

Conclusion

Histopathological changes of endometrium helps 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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