Original Article

Menstrual Irregularities with excessive blood loss: a Clinico-Pathological Correlation

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Abstract

Objective: To evaluate various histo-pathological features in endometrial curettings of patients complaining of menstrual irregularities with excessive blood loss and correlating them with clinical presentations.

Methods: A total of 260 endometrial curettings were obtained by Dilatation and Curettage done at the Department of Gynecology and Obstetrics, Railway Hospital, Rawalpindi. All the preserved specimens were processed under standard conditions at the Pathology Department, Islamic International Medical College (IIMC). The sections were studied after staining with Haematoxylin and Eosin stain.

Results: The patients presented with menorrhagia in 51.9%, metrorrhagia in 35.4%, polymenorrhoea in 9.2% and polymenorrhagia in 3.5% cases. History of hormonal intake was observed in 0.66% patients. Menstrual disorders were most common in 41-50 years age group accounting for 48% cases. Pathology was diagnosed in 40% of endometrial biopsies. The endometrial lesions included endometrial hyperplasia (24.7%), chronic non-specific endometritis (13%), endometrial polyp (1.2%), pill pattern endometrium (2.3%) atrophic endometrium (0.8%) menopausal pattern endometrium, squamous metaplasia, squamous cell carcinoma and chorioncarcinoma (0.4% each).

Conclusion: The dilatation and curettage was found to be an appropriate approach with a good diagnostic yield. Fortunately frequency of endometrial malignancy appeared to be very low. Endometrial hyperplasia was the leading causes of excessive menstrual bleeding (JPMA 55:486;2005).

Introduction

Excessive menstrual blood loss, more than 80 ml in a period is generally considered to be a common gynecological complaint.[1] It accounts for above one third of all gynecological consultations carried out for abnormal uttering bleeding. After excluding organic causes, the remaining so called Dysfunctional Uterine Bleeding (DUB) is preferably treated medically.[2] It is only after failed trial of appropriate treatment especially hormonal, that hysterectomies are considered, more so in age group beyond 35 years.[3,4]

The endometrium represents a plethora of changes, ushered in by the complex interplay of endogenous sex steroids and other factors. The manifestations of various disease patterns can be detected by histological variations of the endometrium, taking into account the age of the woman, the phase of her menstrual cycle and iatrogenic use of hormones. The evaluation of endometrial biopsy requires understanding of important clinical questions, realistic expectations, systematic and practical approach. The clinical expectations for each group are unique, as are morphologic patterns most commonly encountered.[5]

The aim of this study is to evaluate various pathological features in endometrial curettings of patients complaining of menstrual irregularities and correlating them with clinical presentations.

Materials and Methods

A retrospective study was carried out at the Departments of Pathology, Islamic International Medical College (IIMC) and Department of Gynaecology in the affiliated Railway Hospital, Rawalpindi. This hospital caters to the need of women from low, lower middle and middle class community who reside in Dhok Hassu and neighboring Pirwadhai areas. The Pathology Department received endometrial curettings from out patients as well as the Department of Gynaecology. The specimens were already fixed in 10% normal saline. Curettings were described and morphology was recorded. Then they were placed in cassettes, kept in fixative for two hours and processed in the automatic tissue processor. Paraffin blocks were prepared. Sections (4-6μ) were cut and stained with Haematoxylin and Eosin (H and E) stain by the usual methods. Microscopic examination and histopathology reporting was done. A total of 260 cases could be retrieved from the records over a period of about 5 years from January 1999 to December 2003. An account of clinical data regarding the age, menstrual history, commonest presenting complaint and any history of contraceptives or hormonal therapy was also collected from biopsy request forms.

Results

A total of 260 endometrial curettings were studied. The ages of patients ranged from 21-50 years. They were

divided into three age groups. Maximum frequency was observed in 41-50 years, then in 31-40 years and minimum in 20-30 years age group (table 1).

Table 1. Clinical presentations of excessive uterine bleeding in various age groups.

	21-30 years	31-40 years	41-50 years	Total	%
Menorrhagia	6	58	71	135	51.9
Metrorrhagia	22	30	40	92	35.4
Polymenorrhoea	5	8	11	24	9.2
Polymenorrhagia	0	6	3	9	3.5
Total cases	33	102	125	260	100
%	12.7	39.2	48.1	100	

Table 2. Histological diagnosis in various age groups.

Endometrial histology	21-30 years	31-40 years	41-50 years	Total	%
Proliferative	16	22	29	67	25.8
Secretory	10	44	38	92	35.4
Early	7	15	18	40	15.4
Mid	2	23	15	40	15.4
Late	1	6	5	12	4.6
Hyperplasia	5	18	41	64	24.7
Cystic	5	13	21	39	15
Adenomatous	0	5	17	22	8.5
Atypical	0	0	3	3	1.2
Chronic Endometritis	7	13	14	34	13
Endometrial polyp	1	1	1	3	1.2
Pill pattern	1	4	1	6	2.3
Irregular proliferative	1	0	1	2	0.8
Arias stella pattern	0	1	1	2	0.8
Squamous metaplasia	1	0	0	1	0.4
Squamous cell carcinoma	0	1	0	1	0.4
Chorio-carcinoma	0	1	0	1	0.4

The most common clinical presentation was menorrhagia, followed by metrorrahgia, polymenorrhoea and polymenorrhagia (Table 1). Duration of presenting complaints ranged from one month to 12 years, average one and half year, while 50% patients gave history of 1-6 months duration. History of hormonal intake (Primolut N, Orgametril, Depo provera, HRT, oral and injectable contraceptives) was present in 0.66% cases.

Normal physiological phases of menstrual cycle, seen as proliferative and secretory phases of endometrium, were the most common histological findings present in 159 cases (61%). The frequency was 80% in 21-30 years, 65% in 31-40 year and 54% in 41-50 years age group (Table 2). The endometrium was normal in 67% cases with menorrhagia, in 71% cases with polymenorrhoea and 50% cases with metrorrhagia and plymenorrhagia (Table 3). Endometrial pathology was detected in 40% cases. The leading pathology was hyperplasia mostly of cystic and adenomatous type. The frequency of endometrial carcinoma was very low. Pill pattern was more common in 31-40 years. Atrophic endometrium was found in 2 (0.8%), non secretory in 2 (0.8%) and menopausal pattern endometrium in 1 (0.4%) patient, presenting with menorrhagia and metrorrhagia in 41-50 years age group.

Table 3. Histological findings in relation to clinical presentations.

Endometrial histology	Menorrhagia	Metrorrhagia	Polymenorrhoea	Polymenorrhagia
Proliferative	33	25	7	2
Secretory	57	23	10	2
Early	24	9	7	-
Mid	25	13	1	1
Late	8	1	2	1
Hyperplasia	28	30	4	2
Cystic	17	19	2	1
Adenomatous	10	10	1	1
Atypical	1	1	1	-
Chronic Endometritis	16	14	3	1
Irregular proliferative	1	1	-	-
Pill pattern	1	4	-	1
Arias stella pattern	2	-	-	-
Non secretory	1	1	-	-
Endometrial polyp	-	3	-	-
Squamous metaplasia	1	-	-	-
Squamous cell ca.	1	-	-	-
Chorio-carcinoma	1	-	-	-

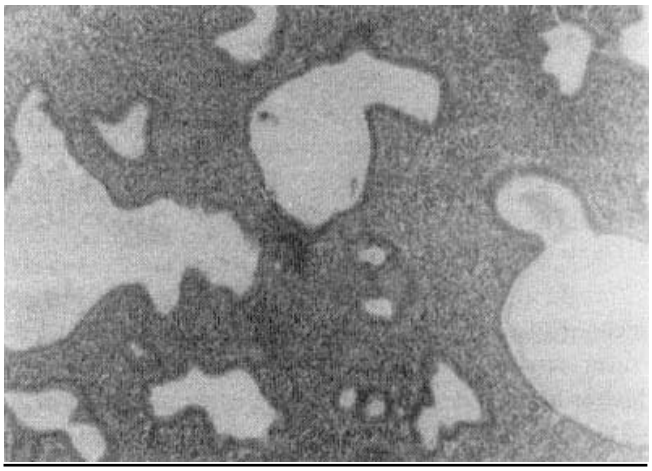

Figure 1. Cystic hyperplasia - endometrium

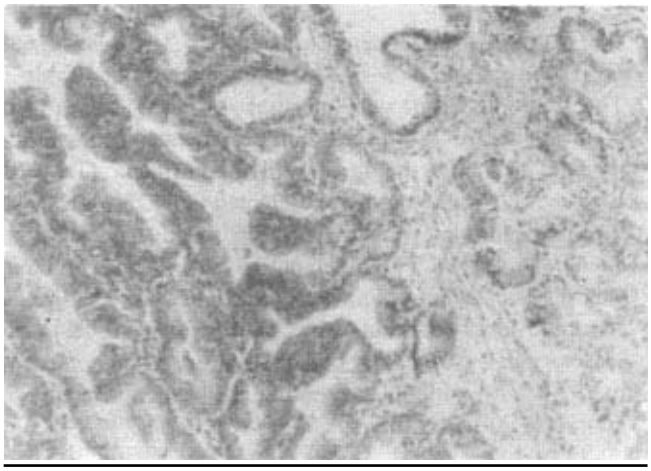

Figure 2. Adenomatous hyperplasia - endometrium.

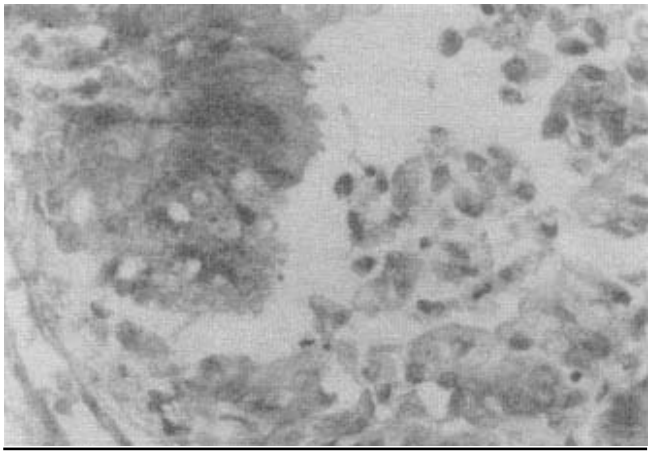

Figure 3. Atypical hyperplasia - endometrium.

Discussion

This paper focuses on women coming to Railway Hospital Rawalpindi IIMC, with multiple child births and often poor hygiene. The usage of D and C to obtain endometrial curettings continues in our set-up. Hysteroscopically directed biopsies, the trend of current days was not done because of non availability of this facility. However sampling the endometrium by Vebra and Pipelle devices is being practiced these days. The literature revealed that 50% of hysterectomy specimens are free of histopathological abnormalities.[1] Hence it is not surprising that endometrial sampling by Dilation and curettage (D and C) is so commonly used.

In this study, the commonest presenting feature, menorrhagia was less as compared to 69.65% quoted by Yusuf et-al[6] but more than 41% quoted by Moghal.[7] Metrorrhagia was present in lesser cases as compared to 48% mentioned by Moghal.[7] The frequency of polymenorrhoea was similar, while polymenorrhagia was less as compared to 11.1%.[6]

Our study revealed that occurence of menstrual disorders of excessive type increased with age. The commonest age group in our patients was 41-50 years, accounting for more cases as compared to 38.06%[6] and 30%[8] in other studies. The World Health Organization recently reported that 18 million women aged 30-55 years perceive their menses to be exorbitant. Reports show that only 10% of these women experience blood loss severe enough to be defined as menorrhagia.[9] The normal physiological patterns of proliferative and secretory phase endometrium in this compared favorably with 60%, 63.5% and 57.5% quoted by Davey[10], Sutherland[11] and Kristner[12] respectively. The occurence of proliferative phase endometrium was similar to 24%[8], 25%[7] and 26%[6] quoted by others but was very low as compared to 48% reported by Nedos.[13]

This intensifies the need for more careful medical evaluation of overlooked causes and treatment before submitting the patient to mini-invasive or invasive procedures. In younger women the cause could be anovulation. In middle age, high estrogen level due to Hormone Replacement Therapy (HRT) and occasionally injectable hormonal contraceptives[14] or other reasons may be responsible. Psychological distress may be another contributory factor. Usually the illiterate women do not remember their LMP (last menstrual period) correctly. Apart from Dysfunctional Uterine Bleeding, it is quite obvious that several organic causes may be responsible for excessive, irregular or prolonged menstrual bleeding. Systemic, endocrinal and haematological causes should also be excluded.

Hyperplasia was commonest endometrial pathology diagnosed which compared favorably with 30.8%[11,12] in other series. The frequency of cystic hyperplasia compared favourably with 14%[8] and 17.9%[6] in other studies. Adenomatous hyperplasia was more common as compared to 4%[8] and 0.44%[7], but much lower than 22.9%.[6] Atypical hyperplasia compared favourably with 1.5%.[7] Chronic non specific endometritis was almost similar to 10.2%[6] but less than 24%.[8] Chronic endometritis usually follows pregnancy, IUCD insertion and abortion. It may be due to viral, chlamydial or gonococcal infections.[9] Endometrial polyps were lesser as compared to 3.2%.[6] Pill pattern endometrium was almost the same as 2.8%.[6] The percentage of atrophic endometrium was less than 1.3%[6,7] 2%[7] and 1.7%.[12] There is general agreement, regarding the frequency of most lesions, between our series and those quoted in other studies in Pakistan and abroad. Only a relatively few lesions in our series did not compare favorably with other series.

Our study revealed that 40% of the curettings detected endometrial pathology rendering dilatation and curettage as an important diagnostic procedure. In excessive menstrual

bleeding with normal endometrium, it also serves as guideline to decide recent mini invasive treatment modalities like Microwave endometrial ablation (MEA), Transcervical resection of the endometrium (TCRE), Endometrial thermoablation and others. Many studies prove that these techniques are safe, effective and acceptable to the patients, giving definite chance of avoiding hysterectomy.[15-17]

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