

Association of Menstrual Pattern with Hysteroscopic and Histopathological Findings in Premenopausal Women

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Abstract

Objectives: To determine an association between various menstrual patterns with hysteroscopic and histopathological findings in premenopausal women presenting with abnormal uterine bleeding.

Study Design: Cross Sectional Study .

Place and Duration: MCH Centre PIMS, gynae unit II, from January 2013 to June 2013.

Methodology: All patients presenting with menstrual disturbances in Menstrual Irregularities clinic were thoroughly evaluated and later underwent hysteroscopic guided biopsy and histopathology as a day care procedure after a written informed consent. The data was entered in predesigned study Performa which was analyzed through SPSS version 21. Association between various menstrual pattern, hysteroscopic and histopathologic findings were determined through Chi-square test and a P value of <0.05 was taken significant.

Results: During study period a total of 146 patients underwent day care hysteroscopy. Majority of the patients were with polymenorrhagia n=43(29.5%), followed by menorrhagia n=40(27.4%), and metrorrhagia n=30(20.5%). On hysteroscopy, the commonest lesion was sub mucous fibroid, found in 21 (14.3%) patients, occurring with greatest frequency in patients with polymenorrhagia. Second commonest lesion was endometrial polyp, found in 5 (3.4%) patients, occurring with greatest frequency in patients with menorrhagia. However no significant association was found between menstrual patterns and uterine pathology. Regarding histopathological findings, endometrial hyperplasia was reported in 8 (5.4%) cases, occurring with equal frequency in patients with menorrhagia, metrorrhagia and intermenstrual bleeding. No case of endometrial carcinoma was found in our study.

Conclusion: No significant association was found between various menstrual patterns, Hysteroscopic and histopathological findings.

Keywords: Menstrual pattern, Hysteroscopy, Histopathology.

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Introduction

Disturbances of menstrual bleeding manifest in a wide range of presentations. Abnormal uterine bleeding (AUB) is the overarching term used to describe any departure from normal menstruation or from a normal

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menstrual cycle pattern. The key characteristics are regularity, frequency, heaviness of flow, and duration of flow, but each of these may exhibit considerable variability.¹ Its etiology in the absence of organic lesion remains largely unknown and considered as dysfunctional bleeding.^{1, 2} It is seen more common in younger patients while organic lesion were more common in older individuals. However histopathology through a guided hysteroscopy is helpful in determining the underlying cause.³

Menorrhagia or heavy menstrual bleeding is a common problem all over the world among women of reproductive age and affects up to 33% of the women population, referred to outpatient gynecological clinic.⁴ heavy bleeding may be idiopathic, due to fibroids, adenomyosis, or use of intrauterine devices (IUDs). Fibroids have been found in 10% of women with Menorrhagia and overall in 40% of women with severe Menorrhagia but half of women having a hysterectomy for Menorrhagia are found to have a normal uterus.⁵

The etiology of bleeding may be discovered in some cases through a proper history, detailed genital examination and transvaginal ultrasound. Endometrial sampling through invasive diagnostic procedures such as Dilation and curettage and pipelle endometrial sampling provides information about endometrial pathology. However both these procedures are blind about uterine cavity abnormalities.⁶⁻⁸ Hysteroscopy in this regard is considered as a gold standard. However due to cumbersome nature of the procedure, selective rather than routine use is encouraged, especially in premenopausal age group, depending upon the type and severity of menstrual disturbance. Various patterns of abnormal uterine bleeding have been defined including menorrhagia, metorrhagia, polymenorrhea, polymenorrhagia and intermenstrual bleed.

Some patterns AUB such as irregular / acyclical bleeding is considered more worrisome and hysteroscopy is ordered in such cases while menorrhagia is treated more through conservative management. This practice is based on the personal experiences and not on scientific evidence.³ The new FIGO classification of AUB is based on the cause and non the pattern (polyp, adenomyosis, leiomyoma, malignancy, coagulopathy, ovulation disorders, endometrial, iatrogenic and not otherwise classified—PALM-COEIN) Besides there is scarcity of data to show if menstrual pattern has any association with the hysteroscopic and histopathological findings. Thus there is need for scientific data to determine if any

association exists between menstrual pattern and endometrial pathology.

The study was conducted to determine an association between various menstrual patterns with hysteroscopic and histopathological findings in premenopausal women presenting with abnormal uterine bleeding.

Methodology

All patients who presented in menstrual irregularity clinic with history of abnormal uterine bleeding between January 2013 to June 2013 were included in the study. Patient with gestational cause, haemostatic disorders, isolated cervical and vaginal pathology and leiomyoma were excluded. Relevant clinical data regarding age, pattern and duration of abnormal uterine bleeding, menstrual history, obstetric history, use of exogenous hormones, general physical and gynecological examination was obtained and recorded in a pre-designed hysteroscopy proforma. Laboratory investigations including complete blood picture, blood sugar levels and hepatitis profile were carried out. A written consent was taken after informing about the details of the outpatient hysteroscopy procedure, the expected benefits and potential complications. Hysteroscopy was performed on Day care basis using 5 mm Karlstortz hysteroscope, under systemic non-narcotic analgesia using inj. Diclofenac sodium 150mg I/M and Para cervical block using 20 ml of 1% xylocaine. After detailed hysteroscopic evaluation, hysteroscopic guided biopsy and histopathology were obtained. All data was recorded in structured Performa. A total of 146 cases were analyzed and histological diagnosis was made. Data was entered in Microsoft Excel and managed in SPSS version 21. Analysis was done in the form of percentages and represented as tables and figures where necessary. Association between various menstrual pattern, hysteroscopic and histopathologic findings were determined through Chi-square test and a P value of <0.05 was taken significant.

Results

In our study 146 premenopausal women with dysfunctional uterine bleeding were included. The age ranged from 20–50 years. The mean age in years was 44(±5.2 SD). The commonest bleeding pattern was Metorrhagia n=30(20.5%), intermenstrual bleeding n=17(11.6%), Polymenorrhea n=7(4.8%), hypomenorrhea n=6(4.1%), and continuous bleeding n=3(2.1%). Using hysteroscopy the commonest lesion was submucous fibroid found in 21 patients (14.3%) ,

out of which 33.3% were found in Polymenorrhagia, 28.6% in menorrhagia, 19.0% in metrorrhagia, 9.5% in Polymenorrhea, 4.8% in intermenstrual bleeding, 4.8% incontinuous bleeding. The second most commonly occurring lesion was endometrial polyp found in 5 patients (4.3%) and most frequently present in menorrhagia 60.0% followed by polymenorrhagia 20% and metrorrhagia 20% as shown in table I. No significant association was however found between menstrual pattern and uterine cavity abnormalities.

Histopathological findings.

No case of endometrial carcinoma was found in premenopausal women presenting with abnormal uterine bleeding.

Discussion

The study results showed that polymenorrhagia was the most frequently occurring menstrual disturbance among the premenopausal women observed in 43(29.5%) cases followed by menorrhagia in 40(27.4%)

Table I. Comparison of Menstrual pattern with Hysteroscopic finding (n=146)

Menstrual pattern	n= %	Fibroid n=%	Polyp n=%	Normal n=%	P-Value <0.900
Hypomenorrhea	6(4.1%)	0(0.0%)	0(0.0%)	6(5.2%)	
Menorrhagia	40(27.4%)	6(28.6%)	3(60.0%)	31(25.8%)	
Metrorrhagia	30(20.5%)	4(19.0%)	1(20.0%)	25(20.8%)	
Polymenorrhea	7(4.8%)	2(9.5%)	0(0.0%)	5(4.3%)	
Polymenorrhagia	43(29.5%)	7(33.3%)	1(20.0%)	35(29.1%)	
Intermenstrual bleeding	17(11.6%)	2(9.6%)	0(0.0%)	15(12.5%)	
Continuous bleeding	3(2.1%)	0(0.0%)	0(0.0%)	3(2.5%)	
Total	146(100%)	21(14.3%)	5(3.4%)	120(82.1%)	

Referring table II abnormal histopathological abnormalities were seen in 24 cases (16.4%). These included endometrial hyperplasia in 8 cases (5.4%), endometritis in 4, gestational hyperplasia in 01, necrotizing decidual tissue in 01, retained product of conception in 02 and endometrial polyp in 01 patient. Of 08 cases of endometrial hyperplasia 07 were cystic and one was with atypical hyperplasia.

Regarding distribution of endometrial hyperplasia among various menstrual pattern, highest frequency was seen in patients with menorrhagia 25% and metrorrhagia 25%, intermenstrual bleeding 25%, polymenorrhagia 12.5% but non in continuous per vaginal bleeding and polymenorrhea as shown in Table II. No significant association was found between individual menstrual patterns and hysteroscopic and

cases. Other studies have found that menorrhagia was the most commonly occurring menstrual disorder⁹⁻¹¹

Hysteroscopic abnormalities found in 26 (17.8%) cases while Other studies have reported much higher incidence of Hysteroscopic abnormalities.¹² The commonest abnormality was submucous fibroid occurring in 21 patients (14.3%), found in 33.3% cases of Polymenorrhagia and 28.6% of menorrhagia is contrary to observation made by other authors who reported high incidence of polyp in 15% cases followed by sub mucous fibroid in 12.6% cases.¹³⁻¹⁵ Regarding histopathology abnormalities, the commonest abnormality was endometrial hyperplasia. The other studies have supported these findings that submucous fibroid is the predominant lesion in premenopausal women presenting with abnormal bleeding with the highest incidence in menorrhagia and intermenstrual

Table II. Comparison of Menstrual pattern with Histopathological findings(n=146)

Menstrual pattern	n= %	Hyperplasia	Proliferative phase endometrium	Secretory phase endometrium	Others	P-Value 0.814
Hypomenorrhea	6(4.1%)	1(12.5%)	3(4.3%)	1(1.9%)	1(6.3%)	
Menorrhagia	40(27.4%)	2(25.0%)	18(25.7%)	17(32.7%)	3(18.8%)	
Metrorrhagia	30(20.5%)	2(25.0%)	11(15.7%)	13(25.0%)	4(25.0%)	
Polymenorrhea	7(4.8%)	0(0.0%)	4(5.7%)	2(3.8%)	1(6.3%)	
Polymenorrhagia	43(29.5%)	1(12.5%)	24(34.3%)	15(28.8%)	3(18.8%)	
Intermenstrual bleeding	17(11.6%)	2(25.0%)	9(12.9%)	3(5.8%)	3(18.8%)	
Continuous bleeding	3(2.1%)	0(0.0%)	1(1.4%)	1(1.9%)	1(6.3%)	
Total	146(100%)	8(5.4%)	70(47.9%)	52(35.6%)	16(10.9%)	

bleeding. The second commonest abnormality was endometrial polyp in 5 patients (3.4%) cases. Majority in menorrhagia followed by polymenorrhagia and metrorrhagia. The literature shows contrary findings where the endometrial polyp was the most frequently occurring hysteroscopic abnormality in premenopausal women.¹⁶ However abnormal hysteroscopic findings vary according to the age and presentation. The highest incidence in menorrhagia 21% and intermenstrual bleeding.

Other studies showed an incidence of polyp in 15% cases, sub mucosal fibroid 12.6% endometrial hyperplasia in 8.5% endometrial carcinoma in 1.9% in 106 patients undergoing hysteroscopy for abnormal uterine bleeding. These findings are consistent with other studies where incidence of hysteroscopic abnormalities was found in 45.3% (48 out of 106) and 73% respectively in premenopausal women presenting with abnormal uterine bleeding.

Similarly another study by¹⁷ have reported incidence of hysteroscopic abnormalities in 73% cases in their series of 149 patients with AUB. 91% of them were premenopausal. Relatively lower incidences of 32% abnormal hysteroscopic findings were found by Declodt and Fenton in patients with AUB where 69% were premenopausal.¹⁸

In the present study endometrial hyperplasia was the most commonly occurring histopathological abnormality in patients presenting with menorrhagia, metrorrhagia and intermenstrual bleeding with an incidence of 25% each and relatively least commonly found in hypo menorrhagia, polymenorrhagia, and patients with continuous per vaginal bleeding 0.0%. This difference was not statistically significant. Review of literature in this regard shows similar incidence of endometrial hyperplasia in these conditions 25%, 24%, 26% respectively.

The proliferative phase endometrium was observed in Polymenorrhagia 34.3% followed by 25% in menorrhagia reflecting anovulatory cycle. Secretory phase endometrium was found in menorrhagia 32.7% followed by 28.8% in polymenorrhagia.

Regarding the occurrence of endometrial carcinoma no case was found in our study, however one case of atypical endometrial hyperplasia and six cases of simple cystic hyperplasia were found in these patients. The possibilities of coexisting endometrial carcinoma in these conditions is reported in 25-50% respectively.¹⁸ Review of literature in this regard shows overall incidence of endometrial carcinoma in women presenting with abnormal uterine bleeding was 2.6%,

however the incidence was age dependent. The highest incidence is reported at the age of 55 years or more (28%) in women presenting with abnormal uterine bleeding.

Conclusion

Abnormal uterine bleeding presents with various menstrual disturbances. Though sub mucous fibroids were seen more frequently in polymenorrhagia, endometrial polyps in menorrhagia and endometrial hyperplasia with equal frequency in menorrhagia, menorrhagia and irregular menstrual bleeding, association was not significant. Thus classifying abnormal uterine bleeding into various menstrual patterns is not of much clinical value as far as the underlying pathology is concerned. Thus these terminologies may be abandoned in favor of new FIGO classification (polyp, adenomyosis, leiomyoma, malignancy, coagulopathy, ovulation disorders, endometrial, iatrogenic and not otherwise classified—PALM-COIN) based on etiology. Considerably high frequency of uterine cavity abnormalities and histopathological abnormalities in premenopausal women presenting with abnormal uterine bleeding justifies more frequent use of hysteroscopy for evaluation of such cases.

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