Hysteroscopic Study in Cases of Peri-menopausal Bleeding and its Correlation with Obesity

Original Article

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ABSTRACT

Introduction: An abnormal uterine bleeding condition accounts for one-third of all gynaecological consultations (AUB). Both diagnostic and straightforward surgical hysteroscopies can typically be performed in an office environment. Hysteroscopic surgery can be carried out without the use of anaesthetic or analgesia. Obesity has long been recognised as a major risk factor for the onset of many chronic illnesses, including heart disease, hypertension, type 2 diabetes, stroke, osteoarthritis, and some types of cancer, as well as abnormal uterine bleeding including endometrial cancer, polycystic ovary dysfunctional uterine bleeding.

Materials and Methods: The study included 120 cases undergoing hysteroscopic examination and icrrelation of finding to obesity.

Results: We found that the correlation between complaint and BMI was as follow: Menorrhagia, polymenorrhagia, metromenorrhagia and premenstrual spots were significant complaint in obese women, while polymenorrhagia was higher but insignificant statically. Fibroid, endometrial polyp, unknown (DUB) and malignancy were significant findings in obese women.endometrial thickness (1-4.9 mm), (10-14.9 mm), (15-19.9 mm) and (more than 20mm) were significant in obese women, while endometrial thickness (5-9.9 mm) was higher but insignificant statically. Simple hyperplasia without atypia, complex hyperplasia without atypia, complex hyperplasia with atypia, atrophic changes and carcinoma were significant in the obese patients, while proliferative, secretory and disorder proliferation were higher in obese patients but insignificant statically.

Conclusion: Obesity is strong predisposing factor for abnormal uterine bleeding as there is strong relation between obesity and abnormal uterine bleeding as approved by our study.

Key Words: Hysteroscopy, obesity, peri menopausal bleeding.

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INTRODUCTION

The direct result of abnormal uterine bleeding is a substantial burden on women, their families, and society at large in terms of health care costs. For this issue, up to 30% of women will seek medical attention when they are in their reproductive years. Abnormal uterine bleeding is the cause of one-third of all gynaecological[1] consultations (AUB). When peri- and postmenopausal women are taken into account, this percentage increases to more than two thirds. The cause of irregular bleeding in uteri between the normal and 12 week size is frequently unknown. A quick and uncomplicated way to see the uterine cavity and cervical canal is through hysteroscopy. Additionally, it is utilised to treat a variety of benign diseases. Both diagnostic and straightforward surgical hysteroscopies can typically be performed in an office without any analgesia or anesthesia.[2]

The doctor may be able to rule out causes such pregnancy and pregnancy-related diseases, drugs, iatrogenic causes, systemic ailments, and apparent genital tract pathology in women of childbearing age by history taking, physical examination, and laboratory testing. In peri-menopausal women, abnormal uterine bleeding is assessed with TVS, sonohysterography, diagnostic hysteroscopy, or endometrial biopsy, which is carried out if bleeding persists[3].

Obesity has long been recognised as a significant contributing factor in the development of a number of chronic diseases, including endometrial cancer, polycystic ovary (PCO), dysfunctional uterine haemorrhage, hypertension, type 2 diabetes mellitus, stroke, osteoarthritis, and others.[3-5]

More than 115 million individuals worldwide suffer from obesity-related conditions, according to recent data

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from the World Health Organization (WHO), which shows that the prevalence of obesity is not simply a problem in industrialised nations but is also getting worse there.[6]

Aim of the Work

The aim of this study is to evaluate different hysteroscopic finding in cases of perimenopausal bleeding in relation to obesity.

PATIENTS AND METHODS

I. Technical design:

Setting:

This study was conducted from December 2022 to June 2023 at OB/GYN Department of Banha University Hospitals.

Population:

120 Cases of women with abnormal uterine bleeding

(premenopausal bleeding) .

Inclusion criteria:

Peri-menopausal women with abnormal uterine bleeding .

Exclusion criteria:

- Patients with obstetric complications as pregnancy.
- patients with bleeding disorders.
- Patients who have a chronic disease e.g. renal, hepatic, hypertension.
- Patients with endocrine disorders e.g. diabetes mellitus and thyroid disorders.
- Patients with known bleeding from external genital organs (vulva, vagina, ….. etc)
- Patients with hormonal therapy.
- Patients with anticoagulant therapies.
- Patients with big size uterus (more than 12 weeks) not suitable for hysteroscopic study.

Sample size:

The total number of cases will be 120 cases all of them were included in the study.

II. Operational design:

Study design:

This study was comparative cross section study

All patients was subjected to:

1- Clinical examination.

2- Transvaginal ultrasonography.

3- Hysteroscopy.

4- Hystroscopic guided samples.

Outcome measures:

To find out If there is relation between obesity and hysteroscopic finding of abnormal uterine bleeding.

Statistical Analysis:

Analysis of data was done by HP computer using statistical program for social science (SPSS) version 17.

RESULTS

Patients in the age group 40-60 years were studied. The mean of age was approximately 48 years old. The duration of complaint between 2 – 36 months. The mean of duration was approximately 12 month. (Table 1). 60% of patients were more than para 2 (Table 2). The majority of cases (52.5%) presented with menorrhagia, (23.3%) with polymenorrhagia, (14.2%) metromenorrhgia, (6.7%) polymenorrhea, (3.3%) premenstrual spots (Table 2). On clinical examination and ultrasonography confirmation (53.3%) of patients presented with fibroid uterus, (25.0%) of cases had no obvious organic pathology, i.e, dysfunctional uterine bleeding while in (15.0%) of cases the cause was endometrial polyp and (6.7%) of cases the cause was malignancy. (Table 3). TVS examination revealed 57 out of the 120 patients to have endometrial thickness (5-9.9 mm), thus accounting for (47.5%) of patients. (25.0%) of patients had endometrial thickness between (10-14.9 mm), (14.2%) of patients had endometrial thickness (15-19.9 mm), (6.7%) of patients had endometrial thickness more than 20mm. (Table 3). Histopathological examination revealed 22 patients to have proliferative endometrium followed by 22 patients reported to have disordered proliferative endometrium. Hyperplastic changes were found in 32 patients, though only 10 of them had complex hyperplasia with atypia. Proliferative endometrium was the most common histological pattern detected. Disordered proliferation considered as an intermediate step between normal proliferative endometrium and endometrial hyperplasia was detected in 18.3% of the patients. while secretory changes was

detected in 21.7% (Table 4). The body mass index (BMI) Used in Classification of our patients into four categories: underweight (5%), normal weight (10%), overweight (32.5%), and obese (52.5) (Table 5).

In correlation between age of patients & BMI we found that mean age of underweight patient (48.5), normal patients (48.25), overweight patients (47.56) & obese patients (48.158) with man age of all the group about (48) years. In another correlation between duration of complaint and BMI we found that in underweight patients the duration of complaint (3.5) months, normal weight (10.66) months , over weigh (9.53) months, obese patients (14.15) months with mean duration of complaint (11.77) months. We found that the age of patient was insignificant in the four groups while the duration of complaint was significant. (Table 6), in relation between BMI & complaint we found that Menorrhagia, polymenorhgia, premenstrual spots and metromenorrhagia were significantly higher in obese patients. While Polymenorrhagia was higher but insignificant statically. (Table 7)

In relation between BMI & abdominal ultrasound findings we found that fibroid, endometrial polyp, malignancy, unknown causes (DUB) were significantly higher in obese patients.

Table 8 in relation between BMI & histopathological examination of endometrium we found that complex hyperplasia (with and without atypia), atrophic changes, simple hyperplasia and carcinoma were significant in obese patients, while proliferative, secretory and disorder proliferation were higher in obese patients but insignificant statically. (Table 9)

Table 1: Distribution of patients according to age & duration of complaint

	N	Minimum	Maximum	Mean	Std. Deviation
Age (years)	120	40.00	60.00	47.9917	3.97576
Duration (months)	120	2.00	36.00	11.7750	8.91365

Table 2: Distribution of patients according to parity and Compliant

Parity	Frequency	Percent
Nullipara	17	14.2
Para 2 or less	31	25.8
More than 2	72	60.0
Total	120	100
Compliant	Frequency	Percent
Menorrhagia	63	52.5
Polymenorrhagia	28	23.3
Metromenorrhgia	17	14.2
Polymenorrhea	8	6.7
Premenstrual spots	4	3.3
Total	120	100.0

Table 3: Distribution of patients according to uterine pathology detected on TVS

Sonar	Frequency	Percent
Fibroid	64	53.3
Endometrial polyp	18	15.0
DUB	30	25.0
malignancy	8	6.7
Total	120	100.0
Endometrial thickness	Frequency	Percent
(1 – 4.9 mm)	8	6.7
(5 -9.9 mm)	57	47.5
(10- 14.9 mm)	30	25.0
(15-19.9 mm)	17	14.2
more than 20mm	8	6.7
Total	120	100.0

Table 4: Histopathology examination of hysteroscopy obtained biopsy

Histopathology	Frequency	Percent
proliferative	22	18.3
secretory	26	21.7
disorder proliferation	22	18.3
simple hyperplasia without atypia	11	9.2
complex hyperplasia without atypia	10	8.3
complex hyperplasia with atypia	11	9.2
atrophic	7	5.8
endometrial carcinoma	11	9.2
Total	120	100.0

Table 5: The classification of patients according to BMI

BMI	Frequency	Percent
underweight	6	5.0
normal	12	10.0
overweight	39	32.5
Obese	63	52.5
Total	120	100.0

Table 6: The relation of age of patient & duration of complaint with BMI

	BMI	N	Mean	Std. Deviation	Minimum	Maximum
Age	underweight	6	48.5000	5.00999	44.00	55.00
	normal	12	48.2500	3.88763	44.00	58.00
	overweight	39	47.5641	3.14387	42.00	55.00
	Obese	63	48.1587	4.40383	40.00	60.00
	Total	120	47.9917	3.97576	40.00	60.00
Duration	underweight	6	3.5000	1.51658	2.00	6.00
	normal	12	10.6667	8.21676	3.00	34.00
	overweight	39	9.5385	7.31202	2.00	36.00
	Obese	63	14.1587	9.58023	3.00	36.00
	Total	120	11.7750	8.91365	2.00	36.00

Table 7: Complaints in relation to BMI

	BMI								
	Underwt		Normal		Overwt		Obese		*P value*
	Number	%	Number	%	Number	%	Number	%	
Menorrhagia	5	7.94	8	12.70	24	38.10	26	41.27	*< 0.01*
Polymenorrhagia	0	0.00	2	7.14	8	28.57	18	64.29	*< 0.01*
Metromenorrhagia	1	5.88	3	17.65	3	17.65	10	58.82	*< 0.05*
Polymenorrhia	0	0.00	1	12.50	2	25.00	5	62.50	*> 0.05*
Premenstrual Spots	0	0.00	1	25.00	0	0.00	3	75.00	*< 0.01*
Total	6		15		37		62		

Table 8: Abdominal ultrasound findings in relation to BMI

	BMI								
	Underwt		Normal		Overwt		Obese		*P value*
	Number	%	Number	%	Number	%	Number	%	
Fibroid	4	6.25	6	9.38	25	39.06	29	45.31	*< 0.01*
Endo. Polyp	1	5.56	4	22.22	5	27.78	8	44.44	*< 0.01*
Unknown(DUB)	1	3.33	2	6.67	7	23.33	20	66.67	*< 0.05*
Malignancy	0	0.00	0	0.00	2	25.00	6	75.00	*< 0.01*
Total	6		12		39		63		

Table 9: Histopathological examination in relation to BMI

	BMI								
	Underwt		Normal		Overwt		Obese		*P value*
Histopathology	Number	%	Number	%	Number	%	Number	%	
Proliferative	4	22.22	4	22.22	5	27.78	5	27.78	*> 0.05*
Secretory	5	19.23	6	23.08	7	26.92	8	30.77	*> 0.05*
Disorder Proliferation	5	22.73	6	27.27	5	22.73	6	27.27	*> 0.05*
Simple Hyperplasia without atypia	0	0.00	1	8.33	5	41.67	6	50.00	*< 0.05*
Complex Hyperplasia without atypia	1	9.09	0	0.00	5	45.45	5	45.45	*< 0.01*
Complex Hyperplasia with atypia	0	0.00	3	25.00	2	16.67	7	58.33	*< 0.01*
Atrophic	0	0.00	0	0.00	3	37.50	5	62.50	*< 0.01*
Carcinoma	0	0.00	0	0.00	3	27.27	8	72.73	*< 0.01*
Total	15		20		35		50		*120*

DISCUSSION

A thorough evaluation is necessary, especially in this age range, to rule out endometrial cancer or its precursor lesion, endometrial hyperplasia, as AUB is the issue that leads to the majority of gynecologic consultations in the perimenopausal age group. The foundation of diagnosis in modern medicine is the sonographic and histological evaluation of the endometrium[7].

Always start with a speculum examination and palpation when treating perimenopausal women who have AUB. As a first-line diagnostic technique that is relatively affordable, secure, and non-invasive, TVUS is advised. It will show additional pelvic pathologies in addition to endometrial thickening.[7]

In the absence of underlying anatomical disorders, abnormal uterine bleeding is referred to as dysfunctional uterine bleeding (DUB). Obesity has recently been mentioned as a primary underlying risk factor for DUB. Weight loss should be thought of as a conservative treatment in addition to other medical or surgical treatment modalities because there is a substantial correlation between obesity and DUB[8].

120 perimenopausal women between the ages of 40 and 51 who were free of obstetric complications, bleeding disorders, chronic diseases (such as renal, hepatic, or hypertension), endocrine disorders (such as diabetes mellitus and thyroid disorders), known external genital bleeding, hormonal treatments, anticoagulant therapies, and uteri (more than 12 weeks) were included in the study. Delhi

Clinical assessments were made in each case. Hysteroscopically guided endometrial sampling was done after a TVUS evaluation of endometrial pattern and thickness. This study's goal is to assess how obesity affects various causes of irregular uterine bleeding.

52.5% of cases in the current study involved menorrhagia, which is very similar to the study by Jetley *et al*.[9] in which they looked at 219 perimenopausal women in New Delhi.On histological investigation, proliferative endometrium was the most often observed result. These results are in line with research done by Acharya Veena *et al*.[10].

However, secretory endometrium, which was seen in 32.4% of the cases in the study by Jetley *et al*. previously

stated, was followed by proliferative endometrium[9]. What exactly constitutes an abnormal endometrial thickness in a perimenopausal woman who is still menstruation is not well understood. Although the maximum acceptable endometrial thickness is still debatable, the majority of investigations have documented transvaginal sonographic endometrial thickness. The aberrant cutoff value was 8 mm, which called for additional research[11].

Endometrial cancer risk in perimenopausal women is 29% in those with complex atypical hyperplasia and 2% in those who have hyperplasia but not atypia.[12]

This is to underline the requirement for a comprehensive endometrial assessment by D&C in all patients with endometrial hyperplasia seen on TVUS.[13,14]

It's interesting to know that one third of our patients were overweight and half of them were obese. However, in Nouri M, Tavakkolian A, Mousavi SR., a small observational study, consisting of 20 women with DUB, were assessed for obesity, and they declared that two-third of studied women overweight status and other one-third cases were obese[8].

CONCLUSION

Obesity is strong predisposing factor for abnormal uterine bleeding as there is strong relation between obesity and abnormal uterine bleeding as approved by our study.

CONFLICT OF INTEREST

There are no conflicts of interests.

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