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Original Research Paper

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STUDY OF DIAGNOSTIC HYSTEROSCOPY IN PERI AND POSTMENOPAUSAL WOMEN WITH ABNORMAL UTERINE BLEEDING

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ABSTRACT

Background: Abnormal uterine bleeding is defined as bleeding from uterus that differs from that of usual normal menstrual bleeding, in frequency of occurrence or in amount or in alteration of flow. The advantages of hysteroscopy as an accurate diagnostic technique are that it not only allows direct visual observation of pathology but also provides a means to sample the site, most likely to yield positive results. The present study was conducted to study the role of Hysteroscopy in abnormal uterine bleeding in Peri and Post-menopausal women at a tertiary care hospital. **Material And Methods:** Present study was single-center, prospective, Cross sectional study, conducted in women age ≥40years with heavy menstrual bleeding, prolonged bleeding, frequent menstruation, intermenstrual bleeding and post coital bleeding, Post-menopausal bleeding. Hysteroscopy was performed preferably in post-menstrual phase or post bleeding phase with a standard 4mm hysteroscope(Stryker) with a 30 degree fore-oblique lens. Procedure was performed under IV sedation with normal saline as distention media. **Results:** In present study, majority of the subjects (n=28) i.e. 36.8% presented with heavy menstrual bleeding followed by prolonged bleeding (32.8%), post- menopausal bleeding (21%), frequent menstruation (7.89%) and inter-menstrual bleeding (1.3%). On hysteroscopy normal findings were present in 32 subjects (42%) followed by hyperplasia (17.1%), atrophic endometrium (13.1%), submucous fibroid (14.4%), endometrial growth (2.96%) & fibroid polyp (1.36%). Histopathology examination noted Proliferative endometrium (31.5%), secretory (10.5%), disordered proliferative phase (1.3%), simple hyperplasia (18.4%), complex hyperplasia with atypia (1.3%), submucous fibroid (14.4%), endometrial polyp (34.2%), atrophy (13.1%), fibroid polyp (1.34%) and malignancy (3.96%). Sensitivity, Specificity, PPV, NPV values were 100 % except for sensitivity for endometrial growth (66.7 %). p Value was highly significant for all parameters (p <0.0001) **Conclusion:** Hysteroscopy has a better diagnostic accuracy as it provides the option of see and treat which is recommended for peri and post-menopausal women with AUB.. The intracavitary lesions (submucous leiomyomas, polyps, endometrial growth are) better diagnosed on hysteroscopy.

KEYWORDS : hysteroscopy, AUB, perimenopausal, postmenopausal women

INTRODUCTION

Abnormal uterine bleeding is defined as bleeding from uterus that differs from that of usual normal menstrual bleeding, in frequency of occurrence or in amount or in alteration of flow.[1] Prevalence of AUB is around 17.9% in India.[2] AUB in perimenopausal women demonstrated prevalence of normal endometrium (78.4%), endometrial hyperplasia (11.8%), polyp (4.2%) and adenocarcinoma(5.5%).[3]

Perimenopausal age group women may present with heavy menstrual bleeding, intermenstrual bleeding or contact bleeding whereas postmenopausal women may complain of spotting and heavy menstrual flow.[4] Atrophic endometritis, endometrial hyperplasia, endometrial polyps, endometrial myomas & endometrial cancers are leading causes of post-menopausal bleeding.[5] About 80% of endometrial cancers in post-menopausal women occur in 50-65 years.7On the other hand 10-15% of women with post-menopausal bleeding have endometrial cancers.[5]

Accurate diagnosis of causative factor of abnormal uterine bleeding in both the groups is of utmost importance, so that appropriate management can be established.[6] TVS plays a major role as an initial modality for evaluation of AUB but its accuracy in diagnosis of focal endometrial lesion is limited. Focal lesions are underdiagnosed by TVS because of limitation of double layer thickness evaluation.[7]

In Hysteroscopy an endoscope, usually 3-5 mm is inserted into the endometrial cavity, uterine cavity is then visualized.[4] The advantages of hysteroscopy as an accurate diagnostic technique are that it not only allows direct visual observation of pathology but also provides a means to sample the site, most likely to yield positive results.[8] The present study was conducted to study the role of Hysteroscopy in abnormal uterine bleeding in Peri and Post-menopausal women at a tertiary care hospital.

MATERIAL AND METHODS

Present study was single-center, prospective, Cross sectional study, conducted in Department of Obstetrics and Gynaecology, Kamla Nehru State Hospital for Mother &Child Indira Gandhi Medical College Shimla. Study duration was of 1 year (May 2018 to April 2019). Study was approved by institutional ethical committee. Written informed consent was obtained from each participant.

Inclusion Criteria

Perimenopausal women age ≥40years with heavy menstrual bleeding, prolonged bleeding, frequent menstruation, intermenstrual bleeding and post coital bleeding, Post-menopausal bleeding.

Exclusion Criteria

- Pregnancy
- Women taking Hormonal replacement therapy.
- Obvious cause of bleeding from cervix and vagina.
- Patient with bleeding diathesis.
- Patient on anticoagulant therapy.
- Transvaginal sonography showing adnexal pathology.

All patients were subjected to detailed history taking, Menstrual/Obstetrics/past Medical / Surgical History, followed Clinical examination including physical examination (general, Systemic, abdominal and pelvic), laboratory investigations (CBC, HIV, HBsAg, RBS, BT, CT, ECG) followed by Transvaginal sonography.

After that patient was posted for Hysteroscopy followed by curettage or hysteroscopic guided biopsy of polyp or growth.

Hysteroscopy was performed preferably in post-menstrual phase or post bleeding phase with a standard 4mm hysteroscope(Stryker) with a 30 degree fore-oblique lens. Procedure was performed under IV sedation with normal saline as distention media.

Data was collected and compiled using Microsoft Excel, analysed using SPSS 23.0 version. Difference of proportions between qualitative variables were tested using chi- square test or Fisher exact test as applicable. P value less than 0.5 was considered as statistically significant.

RESULTS

In present study, out of 76 women, 60 (78.9%) were peri menopausal and 16 (21%)were post-menopausal women. We also observed that 59% of the subjects were less than 45 years of age while 20% of the subjects aged more than 50 years. In the present study only one women was nulliparous and majority of the women were para 2. Maximum number of subjects in our study were para 2 (40.09%) followed by para 3 (28.9%), para 1 (14.4%), para 4 (3.9%) and para 5 (1.3%.).

Table 1: Age & Parity Wise Distribution

Age-group (years)	n	%
41-45	45	59.21
46-50	16	21.05
>50	15	19.74
Parity	N	%
Nulliparous	1	1.32
Para 1	11	14.47
Para 2	31	40.79
Para 3	22	28.95
Para 4	8	10.53
Parity >5	3	3.95

It was observed that majority of the subjects (n=28) i.e. 36.8% presented with heavy menstrual bleeding followed by prolonged bleeding (32.8%), post- menopausal bleeding (21%), frequent menstruation (7.89%) and inter-menstrual bleeding (1.3%). All the women in postmenopausal age group were symptomatic (15 postmenopausal women presented with spotting per vaginum and 1 woman with heavy menstrual bleeding).

Table 2 Distribution Of Menstrual Pattern (n=76)

Menstrual pattern	N	%
Heavy Menstrual Bleeding	28	36.84
Prolonged Bleeding	25	32.89
Postmenopausal Bleeding	16	21.05
Frequent menstruation	6	7.89
Inter Menstrual Bleeding	1	1.32

On TVS examination, 55% had normal endometrium (40 perimenopausal and 2 post-menopausal). Abnormal findings found on TVS were endometrial polyp in 22 subjects (28.9%) (4 postmenopausal, 18 perimenopausal), hyperplasia was found in 15 subjects i.e. 19.7%. (14 perimenopausal, 1 postmenopausal), Submucous fibroid was detected in 10 subjects i.e. 13.1%(all perimenopausal), atrophic endometrium was found in 9 subjects i.e. 11.8%(all post-menopausal), endometrial growth was detected in 1 subject on TVS i.e. 1.3% (perimenopausal).

Table 3. TVS Findings

TVS Findings	N	Percentage
Submucous fibroid	10	13.1%
Polyp	22	28.9%
ET Size (mm)		
<4	9	11.8%
4-12	42	55.2%
>12	15	19.7%
Fibroid polyp	0	
Endometrial growth	1	1.3%

*On TVS many subjects had more than one finding.

On hysteroscopy normal findings were present in 32 subjects (42%) followed by hyperplasia (17.1%), atrophic endometrium (13.1%), submucous fibroid (14.4%), endometrial growth (2.96%) & fibroid polyp (1.36%).

Table 4: Hysteroscopy Findings (n=76)

Hysteroscopy Findings	n	Percentage
Hyperplasia	13	17.1%
Submucous Fibroid	11	14.4%
Endometrial Polyp	27	35.5%
Fibroid Polyp	1	1.31%
Endometrial growth	2	2.6%
Normal endometrium	32	42.1%
Atrophy	10	13.1%

*Many subjects had more than one finding on Hysteroscopy.

Histopathology examination noted Proliferative endometrium (31.5%), secretory (10.5%), disordered proliferative phase (1.3%), simple hyperplasia (18.4%), complex hyperplasia with atypia (1.3%)), submucous fibroid (14.4%), endometrial polyp (34.2%), atrophy (13.1%), fibroid polyp (1.34%) and malignancy (3.96%).

Table 5: Histopathology Examination

Histopathology Findings	N	Percentage
Proliferative	24	31.5%
Secretary	8	10.5%
Disordered Proliferative	1	1.31%
Hyperplasia with Atypia	1	1.3%
Hyperplasia	14	18.4%
Submucous Fibroid	11	14.4%
Endometrial Polyp	26	34.2%
Atrophy	7	9.2%
Fibroid Polyp	1	1.36%
Malignancy	3	3.94%

*On histopathology many patients had more than one finding. We compared hysteroscopy VS histopathology examination for various diagnoses (Hyperplasia, Submucous fibroid, Endometrial polyp, Atrophy, Endometrial growth & Fibroid polyp). Sensitivity, Specificity, PPV, NPV values were 100 % except for sensitivity for endometrial growth (66.7 %). p Value was highly significant for all parameters (p <0.0001).

Table 6: Diagnostic Value

HYSTEROSCOPY VS HPE	Sensitivity	Specificity	PPV	NPV	P Value
Hyperplasia	100%	96.19%	86%	100%	<0.0001
Submucous fibroid	100%	100%	100%	100%	<0.0001
Endometrial polyp	100%	97%	96.39%	100%	<0.0001
Atrophy	100%	100%	100%	100%	<0.0001
Endometrial growth	66.7%	100%	100%	98.7%	<0.0001
Normal findings	94 %	100%	100%	94.1%	<0.0001
Fibroid polyp	100%	100%	100%	100%	<0.0001

DISCUSSION

AUB is a common gynaecological complaint and it may involve females at any age. Management of AUB requires a correct diagnosis. Many modalities which help in the correct diagnosis are available. In the past, when few diagnostic options were available, this condition was routinely managed with uterine curettage. D & C being a blind procedure can miss the specific lesions. However, with the addition of

Transvaginal sonography, saline infusion sonography and hysteroscopy diagnostic accuracy has improved significantly. Office hysteroscopy has been shown to be a simple, safe, well tolerated and reliable procedure in the diagnosis of AUB across all age groups and its wide spread use can drastically reduce the need for conventional curettage.

Mean age of study population in perimenopausal women was 43 ± 2.37 years & post-menopausal women with AUB was 57 ± 6.87 years which was similar to the mean age observed by Pratibha Garg et al.,[9] i.e. 43 years in perimenopausal women & 55.9 years in postmenopausal with AUB. Choudhary et al.,[10] observed mean age 47.5 years which is similar to mean age observed in the present study.

Majority of women with perimenopausal AUB presented with heavy menstrual bleeding in the present study. Similarly in the study by Barman et al.,[11] and Shukla et al.,[12] in menorrhagia was the most common presenting complaint in one third and two third perimenopausal AUB respectively.

In a study by Barman et al.,[11] normal endometrium was observed in 67% of the peri and post-menopausal subjects with AUB while in our study normal endometrium was present in 42%. Our study population included 60 perimenopausal and 16 postmenopausal women whereas all enrolled subjects in the study by Barman et al.,[11] were perimenopausal women with AUB. In the present study endometrial pathology was detected in 93.7% postmenopausal women with AUB. Choudhary et al.,[10] observed normal findings in 56% of the subjects which is significantly more as compared to 42% subjects with normal histopathology findings in the present study. The difference in study population could be the reason for this difference as Choudhary et al also enrolled only perimenopausal women with AUB.

Barman et al.,[11] observed that 47% patients had proliferative endometrium as compared to the present study i.e. 31.5% with proliferative endometrium on histopathology. Secretory phase was observed in 14.1% in a study by Barman et al.,[11] and 10.5% in the present study.

In our study sensitivity and specificity of hysteroscopy was 100% and 96% respectively. Barman et al.,[11] observed that on hysteroscopy 16.47% had hyperplastic endometrium and histopathology report confirmed hyperplastic endometrium in 35.71%.Thus in experienced hands TVS has slightly better diagnostic accuracy in diagnosing endometrial hyperplasia as compared to hysteroscopy probably due to lack of specific diagnostic criteria.

In present study specificity of Hysteroscopy for endometrial polyp was 97.5%.Vitner et al and Barman et al.,[11] documented specificity 89.6% and 100% respectively which correlates well with the present study. In our study sensitivity of Hysteroscopy for endometrial polyp is relatively high i.e. 100% as compared to sensitivity 65.5% observed by Vitner et al.,[13] and 71.4% by Barman et al.,[11].

In a study by Shukla et al.,[12] it was observed that sensitivity of Hysteroscopy for fibroid was 100% which is similar to the present study. The present study observed specificity of 100% which is comparable to study by Shukla et al.,[12] i.e. 100%. In the present study on hysteroscopy 11 cases were diagnosed as submucous fibroid out of these eleven cases eight underwent hysterectomy, one myomectomy and two patients had hysteroscopic removal of fibroid. The final sensitivity and specificity of hysteroscopy for submucous fibroid was 100%.Thus, hysteroscopy is complementary to histological analysis.

In the present study sensitivity of hysteroscopy for endometrial growth was found to be 66.7% which is markedly less as compared to the findings of the study by G Patil et al.,[14] i.e. 100% and sensitivity observed by Tandulwadkar et al.,[15]

The difference could be explained as the studied population comprised of only postmenopausal women with AUB in the study by Tandulwadkar et al.,[15] resulting in large sample size of postmenopausal women with AUB as compared to sixteen subjects with postmenopausal AUB in the present study. The specificity of hysteroscopy for endometrial growth in the present study was 100% which is comparable to the studies done by G Patil et al.,[14] and Tandulwadkar et al.,[15] One case of malignancy was missed in the perimenopausal women, diagnosed as normal endometrium. A small focus of malignancy in the background of normal endometrial picture or hyperplasia as in perimenopausal women may be missed on Hysteroscopy alone.

In the present study sensitivity and specificity of Hysteroscopy in detecting atrophic endometrium was 100% which correlates with the findings observed by Tandulwadkar et al.,[15] On the contrary study conducted by Veena BT et al.,[16] observed sensitivity of 60% which is quiet low as compared to the present study. The endometrial histopathology was not routinely done by Veena BT et al.,[16] whereas all women were subjected to endometrial histopathology in the present study irrespective of TVS and or histopathology findings.

CONCLUSION

Hysteroscopy has a better diagnostic accuracy as it provides the option of see and treat which is recommended for peri and post-menopausal women with AUB.. The intracavitary lesions (submucous leiomyomas, polyps, endometrial growth are) better diagnosed on hysteroscopy.. The other advantages of hysteroscopy are that it not only allows direct visual observation of pathology but also provides a means to sample the site, most likely to yield positive results. Also hysteroscopy can detect intracavitary lesions such as leiomyomas and polyps that might be missed on TVS or endometrial sampling. Hence it should be made an essential part of diagnostic workup of abnormal uterine bleeding.

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