A CLINICAL STUDY OF DIAGNOSTIC HYSTEROSCOPY IN ABNORMAL UTERINE BLEEDING AND ITS HISTOPATHOLOGICAL CORRELATION

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ABSTRACT

BACKGROUND
Abnormal uterine bleeding (AUB) is a common problem mainly seen in peri-menopausal and post-menopausal women. AUB has a negative impact on quality of life and in turn affects the efficiency of women. Hysteroscopy in this new era is increasingly becoming the investigation of choice for the evaluation of AUB, owing to the direct visualization of the uterine cavity, and its ability to pinpoint the aetiology in most of the cases.

METHODS
This is a prospective study. 100 cases with abnormal uterine bleeding (AUB) underwent hysteroscopy and biopsy was taken from suspected area. They then underwent dilatation and curettage and tissue samples were sent for histopathological examination. The findings on hysteroscopy and histopathological examination were correlated. Data obtained was subjected to statistical analysis and results derived was analysed in terms of sensitivity, specificity, positive predictive value and negative predictive value.

RESULTS
42 (42%) cases with AUB were seen in the age group of 40-49. Most common symptom was menorrhagia 70 (70%) seen in the age group 40-49 years. Sensitivity, specificity, positive predictive value (PPV) and negative predictive value (NPV) of hysteroscopy was 97.18%, 96.55%, 98.57% and 93.33% and that of histopathology was 89.13%, 96.29%, 95.34% and 91.22% respectively. All 5 cases of carcinoma diagnosed on hysteroscopy were confirmed by histopathology.

CONCLUSIONS
Hysteroscopy should be considered as the gold standard for diagnosis of intrauterine pathologies and it should be included in the management of AUB.

KEYWORDS
Abnormal Uterine Bleeding, Hysteroscopy, Histopathology, Sensitivity, Specificity, Positive and Negative Predictive Value.


BACKGROUND
Abnormal uterine bleeding (AUB) is a common problem mainly seen in peri-menopausal and post-menopausal women. AUB has a negative impact on quality of life and in turn affects the efficiency of the women. Management aims at obtaining an accurate diagnosis and planning correct line of treatment. Traditionally Dilatation and Curettage (D&C) and Ultrasonography (USG) were the most common investigations employed in the evaluation of the causes of abnormal uterine bleeding.2

USG only shows the uterine contour and the status of the ovary, but fails to provide adequate information regarding the endometrium. D&C is a blind procedure and requires skill so as to obtain an adequate sample of the endometrial tissue for histopathological examination. Complications like perforations, cervical tears and injuries, scar tissue formation and intrauterine adhesions are common. Hysteroscopy in this new era is increasingly becoming a prime investigation of choice for the evaluation of AUB. Owing to the direct visualization of the uterine cavity, it is able to pinpoint the etiology in most of the cases.3

It can most accurately detect endometrial polyps, fibroids,
hyperplasia, etc. better than an ultrasound scan wherein the diagnosis is often missed. This study is aimed at evaluating the diagnostic accuracy of diagnostic hysteroscopy in diagnosing the etiology of AUB and correlation with histopathological findings.

**METHODS**
This is a prospective study, carried out in the Department of Obstetrics and Gynecology, NRI Medical College & General Hospital, Chinnakakani, Guntur, Andhra Pradesh from September 2015 to August 2017. A total of 100 cases who reported to department of Obstetrics & Gynecology with history of AUB were included in the study.

**Inclusion Criteria**
- Patients with age between 20-60 years with AUB.
- Both parous and nulliparous women.

**Exclusion Criteria**
- All patients with bleeding diathesis.
- Bleeding from cervical causes like erosion, cervical polyp.
- Vaginitis.
- Local vaginal, vulval, labial lesions.
- Drug induced bleeding.
- Intrauterine device induced bleeding.

Detailed history, examination and investigations were done. After taking informed consent Hysteroscopic examination was done in all patients post-menstrually. Biopsy was taken from suspected area. Then they underwent dilatation and curettage and samples obtained were sent for histopathologic examination. The findings on hysteroscopy and histopathological examination were correlated. Data was recorded on a predesigned proforma. Normal endometrial findings in hysteroscopy and histopathological examinations were secretory and proliferative endometrium. No complications were noted during the study. Data obtained was subjected to statistical analysis and results derived in terms of sensitivity, specificity, positive predictive value and negative predictive value.

**RESULTS**
In the present study 42(42%) cases with AUB were seen in the age group of 40-49. The youngest patient in this study was 21 yrs. and the oldest was 60 years. 27(27%), 24(24%) and 7(7%) were seen in the age group 50-60 years, 30-39 years and 20-29 years respectively. Majority 79(79%) cases had symptoms less than 6 months. 12 patients had symptoms between 6 months to 1 year and 9 patients had symptoms for more than 1 year. Most common symptom was Menorrhagia 70(70%) seen in age group 40-49 years. 15(15%) had post-menopausal bleeding (PMB). Other symptoms were oligomenorrhea 9(9%), polymenorrhea 2(2%), polymenorrhagia 4(4%). Hysteroscopy showed endometrial hyperplasia in 32(32%) cases, polyps 17(17%), atrophic endometrium in 11(11%), endometritis in 1(1%) carcinoma 5(5%) and normal endometrium in 34(34%) cases. Histopathological examination confirmed carcinoma in 5(5%) diagnosed by hysteroscopy. Endometrial hyperplasia was seen in 25(25%), polyps in 11(11%), atrophic endometrium in 6(6%), endometritis 1(1%) and normal endometrium in 52(52%) cases. Hysteroscopy showed sensitivity 97.01%, specificity 96.96%, positive predictive value 98.48%, Negative predictive value 94.11%, False Positive Rate 3.03%, False Negative Rate 2.98%, and Accuracy 97%. Histopathology showed Sensitivity 89.13%, Specificity 96.29%, Positive Predictive Value 95.34%, Negative Predictive Value 91.22%, False Positive Rate 3.70%, False Negative Rate 12.24%, and Accuracy 93%. Both hysteroscopy and histopathology reports were accurate when an abnormality is diagnosed, giving a Specificity of 96.96% & 96.29% and Positive Predictive Value (PPV) of 98.48% & 95.34% respectively. Accuracy of hysteroscopy was 97%. (Table 1) Both Hysteroscopy and histopathology findings were similar in 81% of cases. (Table 2)

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<th>Parameters</th>
<th>Hysteroscopy</th>
<th>Histopathology</th>
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</tr>
<tr>
<td>Specificity</td>
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<td>Accuracy</td>
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**DISCUSSION**
The age group in this study was between 20-60 years and maximum incidence of AUB was seen between 40-49yrs. Panda et al found that maximum incidence of AUB was in the age group of 35-45 yrs. Giannioto’s et al noted commonest incidence was between 30-45 yrs and Trotsenburg reported maximum age incidence between 41-50 yrs. The commonest presenting complaint in this series was menorrhagia (70%) followed by Postmenopausal Bleeding (15%) and oligomenorrhoea (9%). Panda’s et al had 60% cases of menorrhagia followed by Polymenorrhagia and Metrorrhagia. This study showed abnormal findings on hysteroscopy in 66(66%) cases and remaining 34(34%) had no abnormality. From 66 cases with abnormal findings on hysteroscopy, commonest finding was endometrial
hyperplasia 32(32%) followed by endometrial polyps 17(17%), atrophic endometrium 11(11%) and carcinoma (5 cases, 5%). Panda et al found endometrial hyperplasia in 28.3%, Wamsteker et al found endometrial polyp in 19%, endometrial hyperplasia in 12.2% and submucous myoma in 7.8%, Trotsenburg et al observed myomas and polyps in 14% and D Lewit et al reported myomas in 21% and polyps in 14.4%. Madan SM et al found endometrial polyps in 24.5%. Hysteroscopy was highly specific for diagnosis of both endometrial Hyperplasia (58%). Neumann et al found endometrial hyperplasia in 18.1% and polyps in 4.7% cases. Sheth et al reported 81.8% accuracy in diagnosis of polyps and myomas, while Garuti et al reported 95.4% specificity in diagnosis of polyps. In our study endometrial hyperplasia was seen in 34% cases when compared to Singh S, et al did a study on 100 cases, which showed hyperplasia as the most common finding, which was seen in 26% patients, other findings included endometrial polyp 8%, myoma or myomatous polyp 7%, atrophic endometrium 4%, endometrial carcinoma, misplaced IUCD, and synechiae in 2% each and tubercular endometritis in 1%. Hysteroscopically directed biopsy would be an ideal procedure in abnormal uterine bleeding wherever facilities are available. In the present study, Hysteroscopy diagnosed 3 fibroids out of 100 cases, out of which one case is submucosal fibroid. The accuracy of hysteroscopy in this study was 97% and that of endometrial histopathology was 93%.

In our study Hysteroscopy accuracy was 97%. Carcinoma detected in our study was 5%. Clark et al concluded that diagnostic accuracy of hysteroscopy was high for endometrial carcinoma. Panda et al and Parasnis et al showed accuracy of 92.69% & 92% respectively whereas Barbot et al and Baggish et al showed 84% & 87.5% of accuracy respectively. The sensitivity and Specificity in our study was 97.01% and 96.96%. Chaudhari KR et al found to have 98.3% sensitivity and specificity of 80.50%. Loverro et al study showed sensitivity and specificity of 98% and 95% respectively. Loffer et al, Sonajapop et al showed sensitivity of 98% & 100% and specificity of 80% & 81% respectively. Comparison of sensitivity and specificity in various studies are shown in table 3.

<table>
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<th>Authors</th>
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Table 3. Comparison of Validity Factors for Hysteroscopy

There is no significant difference between sensitivity and specificity obtained in this study and that obtained by various other authors. This confirms the validity of hysteroscopy done in the present study. The present study showed sensitivity & specificity of histopathology was 89.13% & 96.29%. Loverro et al found positive predictive value of 98.4% and Negative predictive value was 94.11%. Loverro et al found positive predictive value of 72% and negative predictive value of 99%. Panda et al showed NPV of 93%. P value = <0.001 for hysteroscopy which is statistically significant. In the present study, the results of hysteroscopy and histopathological reports were same in 81% patients. In Gimpeleson RJ et al, hysteroscopy and histopathological findings were same in 79% cases.

CONCLUSIONS

This study confirms that hysteroscopy is superior to D & C in evaluating patients with abnormal uterine bleeding. Hysteroscopy is a reliable, safe, low-risk technique which helps in adequate visualization of the entire uterine cavity so that no lesion is missed. It increases the accuracy of clinical diagnosis and serves as an adjunct in the management. Hysteroscopy is accurate for intrauterine pathologies like polyp and submucous fibroid which can be missed on D & C. Our study has shown that hysteroscopy has not missed any malignant lesion. Thus, hysteroscopy can be considered as the gold standard method for diagnosis of intrauterine pathologies and it should be included in the management of AUB.

REFERENCES


