

Original Article

Evaluation and Comparison of Hysteroscopic Findings with Histopathology in Abnormal Uterine Bleeding : A Tertiary Care Hospital Base Study

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Abstract

Objective: To help identify the prevailing conditions of endometrial pathologies using hysteroscopy and to compare it with histopathological findings

Methodology: A prospective, non randomised, longitudinal and cohort study was carried out from January 2010 to January 2019 in the Department of Obstetrics and Gynecology at Dhulikhel hospital, Kathmandu University Hospital, Kavre, Nepal. Three hundred cases with abnormal uterine bleeding above the age of 18 years were enrolled. Hysteroscopic guided endometrial sampling and endometrium was sent for histopathologic examination. The comparison between findings on hysteroscopy and histopathologic examination was evaluated by assessing the data recorded in the predesigned proforma which was filled in in every included cases.

Results: The following were the findings on hysteroscopy: proliferative endometrium was in 60%, secretory endometrium was in 13.3%, endometrial hyperplasia in 8.7%, endometrial polyp in 6.7%, atrophic in 2.67%, submucous myoma in 4% and carcinoma of endometrium in 1.67%.

Conclusions: In patients with abnormal uterine bleeding, hysteroscopy provides accurate diagnosis when compared with histopathological findings.

Keywords: Abnormal Uterine Bleeding, Histopathology Examination, Hysteroscopy.

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Introduction

Abnormal uterine bleeding is the leading cause of concern as this affects millions of women in both developed and developing the world. Until recent times, dilatation and curettage was the usual method of evaluation. This detects the cause of bleeding in less than 50% of the cases, but hysteroscopy is a better diagnostic modality and prompt treatment can

be provided in the same setting.

Abnormal uterine bleeding (AUB) is an aberration in the normal cyclic pattern of ovulatory hormonal stimulation to the endometrial lining. The bleeding is unpredictable in many ways as it may be excessively heavy or light and maybe frequent, prolonged or random. AUB should be suspected in patients with

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unpredictable or episodic heavy or light bleeding despite normal pelvic findings. The prevalence of some type of abnormal bleeding is up to 30% among women of reproductive age.¹

Hysteroscopy helps to evaluate inside the endometrial cavity in order to diagnose and treat causes of abnormal bleeding. Previously before the advent of hysteroscopy, only dilatation and curettage was done, which is a blind procedure and it doesn't allow for direct visualization of the uterine cavity. With the hysteroscopy, it helps to improve the diagnostic accuracy and allows better treatment of uterine diseases. After hysteroscopy and its findings can be correlated with the histopathological examination and elective surgery can be better planned.² It gives an opportunity for the gynecologist to discuss the condition to the patient and plan for further treatment and management. Patients find themselves better informed after showing them the pictures of the hysteroscopic findings of their prevailing problems. Hysteroscopy offers the advantage of direct visualization of the uterine cavity while giving the option of collecting histological biopsy samples under visual control.³ So it has almost replaced dilatation and curettage.

The main aim of this study is to evaluate the abnormal uterine bleeding by hysteroscopy and to compare hysteroscopic findings with histopathologic findings.

Methodology

This was the prospective, non-randomized, longitudinal and cohort study carried out from January 2010 to January 2019 in 300 patients with age group 18 and above in the Department of Obstetrics and Gynecology at a tertiary hospital in Nepal. For the calculation of sample size, all the cases who fits in the inclusion criteria and underwent hysteroscopy with histopathology reading in the previous year were taken using Cochran's sample size formula and using convenient sampling techniques. The ethical clearance was taken from an institutional review board before conducting the study. Informed consent was taken from the patients. Inclusion criteria included patients of the age of 18 years and above with abnormal uterine bleeding. Exclusion criteria included patients with any demonstrable pelvic

pathologies like fibroids, cancer of cervix or vagina or endometrium on clinical examination and those having an active pelvic infection, coagulation disorder, thyroid disease, pregnancy, patients on hormonal drugs like tamoxifen.

Patients were subjected to a detailed history and examination, and investigations were done. The hysteroscopic examination was done in all patients. Hysteroscopy was carried out in the operation theater. Short intravenous anaesthesia Inj. Propofol 1 mg/kg body weight) was given to all the cases as it reduced the anxiety and the muscle relaxation was better. The distending media used was normal saline.

The patients were subjected to hysteroscopic guided endometrial sampling and endometrial sampling was sent for histopathologic evaluation. The comparison between findings on hysteroscopy and histopathologic evaluation was tabulated.

Further management of the patient was decided according to age, parity, the severity of the disease, hysteroscopic findings, and histopathological results. All data were recorded on a predesigned proforma.

For the statistical data analysis, Statistical package for social sciences SPSS v.23.0 for Windows (SPSS inc, Chicago, USA) was used.

Results

Out of eleven hundred gynecological cases, 300 patients had abnormal uterine bleeding. So the frequency was found to be 27.3%.

The abnormal uterine bleeding was most common in the age group of 41-45. (Table I) The parity index in abnormal uterine bleeding with para 3 has the most common abnormal uterine bleeding. (Figure 1)

Age of patients (years)	Number (%)
20-25	9(3%)
26-30	63(21%)
31-35	20(6.7%)
36-40	45(15%)
41-45	150(50%)
>45	13(4.3%)
Total	300 (100%)

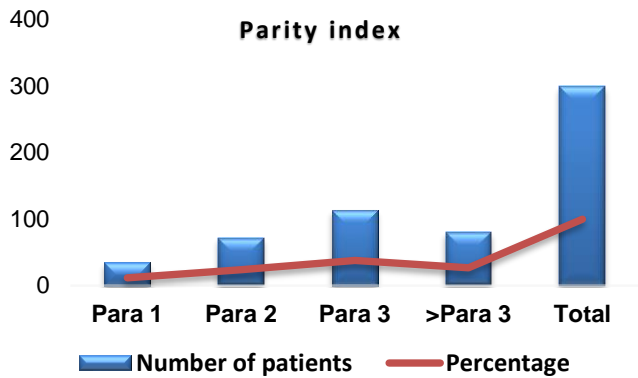


Figure 1. The parity index in abnormal uterine bleeding with para 3 has the most common abnormal uterine bleeding.

Regarding the abnormal uterine bleeding, middle socioeconomic status had high abnormal uterine bleeding as compared to low and high socioeconomic status.

Regarding the pattern of abnormal uterine bleeding, menorrhagia is the most common as shown in table II.

Abnormal uterine bleeding	Number (%)
Menorrhagia	120 (40%)
Polymenorrhoea	27 (9%)
Polymenorrhagia	33 (11%)
Metrorrhagia	70 (23.3%)
Hypomenorrhoea	9 (3%)
Oligomenorrhoea	6 (2%)
Postmenopausal bleeding	35 (11.7)
Total	300 (100%)

Out of 180 proliferative findings in hysteroscopy, 167 came out to be proliferative in histopathology whereas 9 was secretory, 2 was simple hyperplasia and 2 was complex hyperplasia without atypia. Similarly, other correlative findings are shown in table III.

Discussion

Since the abnormal uterine bleeding is one of the most frequently encountered conditions in gynecology, so we did the study to know the status of abnormal uterine bleeding with hysteroscopy and also the correlation of findings with histopathology. The frequency of abnormal uterine bleeding in our study was 27.3% which is comparable to the study performed by Menon et al which showed the frequency of 30–40% of all gynecological cases.⁴

The commonest affected patients were in the age group of 41-45 years, it may be due to functional endometrial disorder, which is also termed as dysfunctional uterine bleeding in the perimenopausal age group. Our findings are similar to study performed by Sudhamani S et al.⁵

In our study, women who presented with AUB had parity index of 3 or more, which seems to be an incidental finding.

Most of the ladies came from a middle socio-economic status and it may be because they were aware of the problems and were afraid if they had cancer of genital tract. Our study also showed that the menorrhagia was the commonest finding of AUB

Hysteroscopic findings	Histopathological findings								Total Number (%)
	Proliferative	Secretory	Simple hyperplasia without atypia	Complex hyperplasia without atypia	Polyp	Fibroid	Atrophic	Carcinoma	
Proliferative	167	9	2	2	-	-	-	-	180(60%)
Secretory	-	40	-	-	-	-	-	-	40(13.3%)
Hyperplasia	-	-	26	9	-	-	-	-	35(11.6%)
Polyp	-	-	-	-	20	-	-	-	20(6.7%)
Fibroid	-	1	-	-	1	10	-	-	12(4%)
Atrophic	-	3	-	-	-	-	5	-	8(2.7%)
Carcinoma	-	-	-	-	-	-	-	5	5(1.7%)
Total patients	167 (55.7%)	53 (17.6%)	28 (9.3%)	11 (3.7%)	21 (7%)	10 (3.3%)	5 (1.7%)	5 (1.7%)	300 (100%)

and the reason behind is also the functional endometrial disorder.

In our study out of 180 proliferative endometrium diagnosed on hysteroscopy 167 was found to be proliferative diagnosed by histopathological examination. The sensitivity, specificity, positive and negative predictive value of hysteroscopy compared to histopathology was 100, 85.5, 80.5 and 100% respectively. Our findings are comparable with the study performed by Patil SG et al.⁶

The hysteroscopy revealed secretory endometrium in 40 cases but histopathology study showed secretory endometrium in all 40 cases in addition also in 9 cases which were diagnosed as proliferative in hysteroscopy. So, the sensitivity, specificity, positive and negative predictive value for hysteroscopy compared to histopathology were 90, 99, 95 and 97.8% respectively which is comparable to study performed by Panda A et al.⁷

Our study showed that 26 patients had hyperplastic endometrium in hysteroscopy, histopathology revealed all 26 cases having hyperplastic endometrium. Also, 4 cases which were diagnosed as proliferative also came out to be hyperplastic in histopathology findings. The incidence of endometrial hyperplasia in different studies varies from 6-28% which is consistent with our findings as our study showed it to be 27.3%.⁶⁻¹⁴

Likewise, the sensitivity, specificity, positive and negative predictive value for hysteroscopy compared to histopathology were 69, 97.9, 86 and 93.33% respectively which is comparable with different studies.⁷⁻¹¹

Hysteroscopy revealed endometrial polyp in 20 cases and histopathology also confirmed it in all 20 cases. The incidence of endometrial polyp in different studies ranges from 6.66 – 20% which is comparable with our study which showed 6.67%.^{7,12,14-17}

The sensitivity, specificity, positive and negative predictive value for hysteroscopy compared with histopathology were 100% respectively and this finding were consistent with studies performed by different authors.^{6,15,18,19}

The hysteroscopy findings showed fibroid in 12 cases and it was confirmed in 10 cases with histopathology whereas 1 case was reported as secretory and another 1 case reported as a polyp in histopathology. The incidence of fibroid in different studies showed 6-17% whereas in our study it was only 4%.^{6,9,13,15,16} Such a low incidence may be because patients are more aware of the different diagnostic procedure and also undergo ultrasonography as a routine checkup, thus it is detected early and treated early as well. The sensitivity, specificity, positive and negative predictive value for hysteroscopy compared with histopathology were 100% respectively and these findings were comparable with studies performed by different authors.^{6,15}

Out of 8 atrophic changes showed by hysteroscopy, histopathology revealed atrophic changes in only 5 cases whereas in 3 cases it showed secretory endometrium. The sensitivity, specificity, positive and negative predictive value for hysteroscopy compared with histopathology were 92, 100, 100 and 96% respectively. These findings were consistent with a study performed by Panda A and Haller H et al.^{7,20}

The hysteroscopy showed carcinoma endometrium in 5 cases and it was confirmed histologically in all 5 cases. The incidence of carcinoma endometrium in the various study showed 0.5 – 3.3% which is somehow comparable with our study which showed 1.67%.^{6,10,14,17,18} The diagnostic accuracy of hysteroscopy was 100% which is similar to other studies.^{7,10} Likewise, the sensitivity, specificity, positive and negative predictive value for hysteroscopy compared with histopathology were 100% respectively and these findings were comparable with studies performed by different authors.^{16,19,20}

So, the hysteroscopy is more accurate (100%) as compared to biopsy in the diagnosis of the endometrial polyp and endometrial hyperplasia whereas histopathology had 100% accuracy in the diagnosis of carcinoma. However, the different types of hyperplasia and confirmatory diagnosis of carcinoma is possible with histopathology only.

The main limitation of our study is the sample size and single institutional-based study. The result would

have been more generalized and accurate if the cases were screened from the community and also if multi institutional study were performed.

Conclusion

In abnormal uterine bleeding, hysteroscopy provides the possibility of immediate diagnosis and prompt and effective treatment. It allows us to visualize the source of bleeding manage it immediately in the same setting and perform a directed biopsy of the suspected area. So, it is a valuable, simple, low-risk diagnostic as well as therapeutic modality which allows an adequate exploration of the uterine cavity under visual control and the results are immediately available.

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