



Accuracy of Pipelle Aspiration Versus Office Hysteroscope in Diagnosing endometrial Pathology in Perimenopausal Women with Abnormal Uterine Bleeding

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ABSTRACT

**AIM AND OBJECTIVE**

To determine safety and effectiveness of outpatient endometrial biopsy with pipelle versus office hysteroscope(versoscope) in perimenopausal abnormal uterine bleeding.

**METHODS** This was a comparative study done on 130 subjects at the Institute of obstetrics and gynaecology,Chennai as an outpatient procedure in sampling the endometrium. Selected patients were initially subjected to pipelle aspiration followed by versascope guided endometrial biopsy.Patients were observed for an hour after the procedure .HPE report of pipelle was compared with that of office hysteroscopy guided biopsy and the results of versoscope were considered as gold standard

**RESULTS**

There was no case of perforation noted in both the procedures.Tissue adequacy with pipelle was 93% and with versoscope was 94.6%.Hpe of 130 samples obtained by pipelle revealed normal in 56.1%,scanty in 3.8%,hyperplasia in 38.5%,polyp 0.7%,adenocarcinoma0.7%.

Hpe obtained by hysteroscope revealed normal endometrium in 50.7%,scanty in 0.7%,hyperplasia in 43%,polyp in 3.8%,submucous fibroid in 0.7%and adenocarcinoma 0.7%.Pipelle had ---sensitivity,---specificiy and ---accuracy for diagnosing a normal endometrium,adenocarcinoma.For polyps and submucous fibroid the detection rates were lower with pipelle.

**CONCLUSION**

Although endometrial sampling using pipelle is easy,safe,and cost effective method for obtaining endometrial tissue in perimenopausal women with AUB,the definitive diagnosis of all pathologies in women with perimenopausal AUB would be by Hysteroscope only.In an adequately equipped set up an office hysteroscope would be the first line approach.

<b>KEYWORDS</b>	Abnormal uterine bleeding,versoscope,office hysteroscope,hyperplasia
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INTRODUCTION

AUB is a major gynaecological problem accounting for 33% outpatient referrals ,including 69% of referrals in the perimenopausal age group(1).Evaluation of AUB in women >40 yrs or menopausal women is of critical importance to confirm the benign nature of the problem and to exclude endometrial carcinoma,so that medical or conservative treatment can be offered and unnecessary radical surgery can be avoided. In more than 60% of D;&C ,less than half of the uterine cavity is curetted with additional risk of complication.(2,3).

This led to the other simpler methods for endometrial sampling (i.e pipelle,hysteroscope guided biopsy.Commonly used sampling device include pipelle aspirator,novak curette,vibra aspirator(4,5)The development of equipment and techniques for the office based endometrial biopsy challenged the need for procedures done under anaesthesia and hospitalization. To date ,hysteroscopic guided biopsy and pipelle is considered standard for sampling the endometrium.

MATERIALS AND METHODS

This was a comparative study done on 130 subjects at the Institute of obstetrics and gynaecology,Chennai over a period of one year from 2013-2014 as an outpatient procedure in sampling the endometrium .

INCLUSION CRITERIA

- Women of 40 and above with symptoms of AUB.
- Women not requiring emergency treatment.
- Not on oral contraceptive pills,No evidence of blood dyscrasias,
- Euthyroid women

EXCLUSION CRITERIA

- Nulliparous women,Post menopausal women & women with severe anaemia

**PROCEDURE** A complete history was taken and recorded from all the patients thus selected.The patients thus selected were subjected to general examination and bimanual pelvic examination was done to assess the size and position of the uterus.Cervix was visualised with a speculum.A vulsellum was then applied to the anterior lip of the cervix to provide gentle traction while the sound was inserted through the cervical os.After assessing the position and size of uterine cavity,a pipelle was inserted through the os and advanced until a gentle resistance was felt.Selected patients were initially subjected to pipelle aspiration followed by versascope guided endometrial biopsy. Patients were observed for an hour after the

procedure. The inner piston of the device is then withdrawn to create suction and the endometrial sample is obtained by moving the pipelle up and down within the uterine cavity by approximately 2-3 cm but not beyond the cervical os. The canula was then rotated during removal and the strip of endometrium is then peeled off and sucked into the syringe. The procedure was repeated atleast 4 times and the device rotated 360 degree to ensure adequate coverage of area .Following this office hysteroscope was introduced into the uterine cavity. Uterus was visualized completely. Biopsy was taken from all the walls of the uterus. Any local pathology that was missed by pipelle was noted by hysteroscope and a directed biopsy was taken in addition. The reports from pipelle aspiration and hysteroscope guided biopsy was compared

RESULTS

The objective of the study is to determine the reliability and accuracy of pipelle aspiration in acquiring an adequate and representative endometrial sample and to compare it with office hysteroscope directed biopsy. The primary outcome will be the validity of pipelle aspiration technique for determining the histopathology of endometrium for a woman presenting with AUB. Secondary outcome measurement will be the adequacy of the tissue sample for hisopathology and associated complication of the procedure.

-Tissue adequacy was 93%with pipelle and 94.6% with hysteroscope.

TABLE 1 TYPE OF ENDOMETRIUM

HPE	pipelle	Hysteroscope
Proliferative endometrium	42(32.3%)	39 (30%)
Secretary endometrium	31(23.8%)	27 (20.7%)
Scanty endometrium	5 (3.8%)	1(0.7%)
Simple hyperplasia	39 (30%)	41( 31.5%)
Complex hyperplasia	11(8.5%)	15(11.5%)
Polyp	1(0.7%)	5(3.8%)
Submucous fibroid	-	1(0.7%)
Adenocarcinoma of endometrium	1(0.7%)	1(0.7%)

TABLE 2 STATISTICAL ANALYSIS PIPELLE VS HYSTEROSCOPE

HYSTEROSCOPE		NORMAL	HYPERPLASIA	POLYP	ADENOCARCINOMA	SCANTY ENDOMETRIUM
Normal	66	66				
hyperplasia	56	3	50			3
polyp	5	4		1		
Submucous fibroid	1					1
Adenocarcinoma	1				1	
Scanty endometrium	1					1

Pipelle was able to diagnose all the normal histopathological findings(66 patients),but it underdiagnosed 7 patients having hyperplasia and polyp as normal.Out of the 56 cases of hyperplasias,50 cases were diagnosed correctly by pipelle.3 cases were diagnosed as normal and 3 were commented as scanty. Of the 5 polyp only one was diagnosed correctly and the remaining 4 were commented as normal.But pipelle missed the submucous fibroid that was diagnosed by hysteroscope .Pipelle correctly diagnosed one patient with adenocarcinoma.

TABLE 3 STATISTICAL ANALYSIS

HYSTEROSCOPE		ABNORMAL	NORMAL
NORMAL	60	53	7
ABNORMAL	70	4	66
		57	73

Sensitivity-93%  
Specificity-90%  
Positive predictive value-88%  
Negative predictive value- 94%

The results were analysed using chi square test and frequency and percentage analysis where histopathology of pipelle and hysteroscopic guided biopsy were compared. There was statistically significant correlation between pipelle and hysteroscope with a p value of 0.000

DISCUSSION

The use of outpatient endometrial sampling techniques reduces the number of hospital admission and general anesthesia with their attendant risks. Cervical dilatation is not required and the risk of over curettage and hemorrhage are reduced.

This prospective descriptive comparative study analyzing the role of pipelle aspiration in diagnosing endometrial pathology perimenopausal women with abnormal uterine bleeding (AUB) was undertaken in 130 patients.

Sampling with pipelle was easy in 95.3%of the subjects while it was easy in only 83%of the subjects with hysteroscope. Tissue was adequate in 93%of the patient's sampled using pipelle while hysteroscope gave an adequate tissue in 94.6%of the patients.

In the present study, histopathology report of hysteroscopic directed biopsy showed proliferative phase endometrium (30%), secretary (20.7), and simple hyperplasia of endometrium (31.5%) complex hyperplasia (11.5%) scanty endometrium (.07%) polyp (3.8%) submucous fibroid (.7%) endometrial carcinoma (.7%).

Crichley HO et al inUK also proved that pipelle biopsy could obtain adequate endometrial sample in the low risk women of perimenopausal age (79%)compared to high risk post menopausal women (43%).Guido et al did pipelle biopsies in 65 patients and found that adequate tissue for analysis was obtained in 97%. Ben Baruch et al in Israel at the same time proved that sufficient endometrial sample was obtained in 90.60%of women and the discomfort caused was only very slight.

Guido and associates fond that pipelle missed 3 of the 5 polyps and a sub mucous fibroid and hence concluded "pipelle is excellent for detecting global processes of the endometrium than focal lesions. The results were same in our study where pipelle missed 4 of the 6 polyps.

In our study, hysteroscopic guided biopsy showed a sensitivity of 100% and specificity of 91% in the detection of abnormal uterine finding with a positive predictive value of 98% and a negative predictive value of 100%.

Garuti G et al at Italy when estimating the accuracy of hysteroscopy found it to be greatest in polyps comparable to our study. The sensitivity & specificity were94.3%and 88.8%respectively. With AC and Vlengels MP in Netherlands concluded that hysteroscopy is a valuable tool in diagnosing structural intracavity pathology.

Although endometrial sampling using pipelle is an easy, cost effective and safe method for obtaining endometrial tissue in perimenopausal women with abnormal uterine bleeding, definitive diagnosis of all pathologies in women with perimenopausal AUB would be by hysterscope. In an adequately equipped set up office hysteroscopy would be the first line approach.

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