



A STUDY OF COMPARISON ON VALIDITY OF PIPELLE ENDOMETRIAL SAMPLING Vs DILATATION AND CURETTAGE IN CASES OF ABNORMAL UTERINE BLEEDING

Dr. M.Sofia Sowjanya*

Assistant professor, Department of Obstetrics & Gynaecology, Government Medical College, Kadapa, AP, India. *Corresponding Author

Dr. Sahaja

Postgraduate, Department of Obstetrics & Gynaecology, Government Medical College, Kadapa, AP, India.

ABSTRACT

INTRODUCTION: In gynecological patients, AUB is one of the most common complaint. Endometrial sampling for histopathological assessment is the most reliable tool to assess the cause of abnormal uterine bleeding. AUB is defined as menstrual bleeding of abnormal volume, duration, regularity or frequency and includes bleeding between cycles. The primary role of sampling the endometrium in patients with AUB is to determine whether carcinomatous or premalignant lesions are present by histological samples. Therefore the present study is done to know if pipelle aspiration endometrial sampling can replace D&C for histological examination in cases of AUB.

AIMS AND OBJECTIVES:

- 1) To determine the reliability and accuracy of pipelle aspiration technique.
- 2) To compare the adequacy of the tissue obtained and associated complications by pipelle sampling with D&C.

MATERIALS AND METHODS: It is a prospective observational clinical correlation study conducted in the department of obstetrics & Gynecology at Government Medical College, Kadapa in the period between (December 2020 to November 2021).

This study is carried out in 100 patients aged 35 and above who presented with AUB. After taking the informed consent and doing baseline investigations endometrial sampling is done by pipelles procedure, then anaesthesia is given D&C procedure was done. The sample was placed in separate sample bottle and sent for histopathological examination.

RESULTS: The majority of the patients were in the age group of 41-45 years majority were multiparous presented with duration of symptoms for less than 6 months of the study group 94% were perimenopausal. In the ultrasound 51% had fibroid. Out of 100 cases of pipelle sampling 93% had adequate sample and 7% had inadequate sample. only 9% had complications like pain and bleeding. majority of histopathological report shown as hyperplasia without atypia 21%, 1% endometrial carcinoma, 20% proliferative phase. The pipelle has a sensitivity 98.94%, specificity 100%, PPV of 100%. NPV 85.7% accuracy of 99% in tissue adequately.

CONCLUSION: Pipelle sampling can be used as effective screening procedure in outpatient department.

KEYWORDS : AUB, pipelle sampling, D&C, HPE reports.

INTRODUCTION:

AUB, is defined as menstrual bleeding of abnormal volume, duration, regularity or frequency and includes bleeding between the cycles¹.

According to the NICE guidelines, heavy menstrual bleeding can be defined as excessive menstrual blood loss, which interferes with the woman's physical, emotional, social and material quality of life². It is a subjective definition objectively for research purposes, HMB has been defined as blood loss of more than 80ml in any menstrual period, whether regular or irregular³. Endometrial sampling for histopathological assessment is the most reliable tool to assess the cause of abnormal uterine bleeding⁴. The primary role of sampling the endometrium in patients with AUB is to determine whether carcinomatous or premalignant lesions are present by evaluating histological samples so that management either medical or surgical can be planned accordingly⁵.

The prevalence of AUB varies with each country. In India the prevalence about 17.9%. In Government Medical College, Kadapa AUB constitutes about 15.3% of opd visits. ACOG recommends endometrial biopsy as a firstline diagnostic for women over 45 with AUB and younger women with unopposed estrogen exposure (such as obesity or PCOS) and chronic AUB. Dilatation and curettage still remains India's most common endometrial sampling method. It is associated with short term (hemorrhage, perforation of uterus, cervical injury) and long-term complications (hemorrhage, infection, intrauterine adhesions). This led to the development of office endometrial biopsy devices that do not require cervical dilatation. The procedure can be done without anesthesia. pipelle endometrial biopsy is the office endometrial biopsy which gave comparable HPE reports from the tissue which is obtained by D&C or hysterectomy.

Pipelle-type devices utility on endometrial sampling as an outpatient procedure has been reviewed in number of researches. Therefore the present study is done in our hospital to know if pipelle aspiration endometrial sampling can replace D&C for histological examination in cases of AUB.

AIMS AND OBJECTIVES:

- 1) To determine the reliability and accuracy of pipelle aspiration technique in acquiring an adequate endometrial sample for determining the histopathology of endometrium.
- 2) To compare the adequacy of the tissue obtained and associated complications by pipelle sampling with D&C.

MATERIALS AND METHODS:

It is a prospective observational clinical correlation study conducted in the department of obstetrics and Gynecology at Government Medical College, Kadapa in the period between December 2020 to November 2021.

This study is carried out in 100 patients aged 35 and above who presented with AUB. After receiving written and informant consent in the outpatient department a thorough clinical evaluation and baseline investigations are done and documented. Before the endometrial biopsy Trans vaginal/ Trans abdominal ultrasound was conducted & Endometrial thickness was measured.

Inclusion Criteria:

- 1) Age 35 years and above
- 2) Perimenopausal women with abnormal uterine bleeding and postmenopausal bleeding.

Exclusion Criteria:

- 1) Pregnancy

- 2) Structural anomalies of uterus
- 3) Pelvic inflammatory disease
- 4) Clotting disorder or coagulopathy
- 5) On hormonal therapy

RESULTS:

This prospective study was done in tertiary hospital. In this study 100 patients of age 35 and above who presented with complaints of abnormal uterine bleeding are included. After the pipelle procedure, the anaesthesia was given, and the D&C procedure was done. The endometrial sample retrieved was placed in the sample bottles with 10% formalin separately and labelled separately and sent to pathology for histopathological assessment. Pipelle biopsy and D&C histopathological reports were documented and compared.

The majority of the patients were in the age group of 41-45 years 45(45%) followed by 35-40 yrs 33(33%) and last in 46-50 years i.e 11(11%) and >50yrs age group 11(11%).

Distribution according to the parity:

Majority were multiparous, para 2 were 42(43.75%) being the most common. Followed by para 3 were 39(40.62%), 4(10.42%) were para 1, and 1(1.04%) were para 5

Duration Of AUB:

Of the 100 patients majority had symptoms of duration less than 6 months i.e 45(45%), 37(37%) had symptoms of duration 6 months to 1 year, 7(7%) had from 2 years, 1(1%) had from more than 3 years.

Of the study group 94(94%) were pre and Perimenopausal and 6(6%) were postmenopausal.

Of the study group, the USG findings were 51(51%) cases had fibroid, bulky uterus in 24(24%) cases, 12% had thickened endometrium, 9(9%) had adenomyosis, 2(2%) had polyp, 2(2%) had ovarian cyst.

Table 1: Distribution Of Study And Subjects According To ET

BT	Frequency	%
<6mm	13	13.0%
6.1-9mm	18	18.0%
9.1-12mm	50	50.0%
12.1-15mm	13	13.0%
15.1-18mm	4	4.0%
>18mm	2	2.0%
TOTAL	100	100

Of the study group, the ET varies as:

Majority had ET between 9.1-12mm i.e 50(50%), 18(18%) had ET between 6.1-9mm, 13(13%) had less than 6mm, 13(13%) had between 12.1 to 15mm, 4(4%), constitutes between 15.1-18mm, 2(2%) had >18mm ET.

Table :2 Distribution Accordingly To Adequacy Of Sample With Pipelle And With D&C

Sample	Pipelle		D&C	
	Freq.	%	Freq.	%
Adequate	93	93	94	94
Inadequate	7	7.0	6	6.0
Total	100	100.0	100.0	100.0

Out of 100 cases who had pipelle sampling 93 had adequate sample, 7 had inadequate sample. The study group who had undergone D&C 94 had adequate sample, 6 had inadequate sample.

Table:3

Complications	With pipelle		With D&C	
	Freq	%	Freq.	%
Bleeding	4	4%	8	8%
Pain	5	5.0	33	33
No complaints	91	91.0	59	59.0
Total	100	100.0	100	100.0

Bleeding	4	4%	8	8%
Pain	5	5.0	33	33
No complaints	91	91.0	59	59.0
Total	100	100.0	100	100.0

Out of 100 cases who had pipelle sampling, 91 had no complaints, 5 had pain and 4 had bleeding. The study group who had undergone D&C 59 had no complications, 33 had pain, 8 had bleeding

Table:4 Distribution according to HPE report of pipelle and D&C

HPE REPORT	Pipelle		D&C	
	Freq	%	Freq	%
Hyperplasia with out atypia	21	21.0%	22	22.0
Proliferative phase	20	20.0%	20	20.0
No evidence of malignancy	14	14.0%	14	14.0
Disordered proliferative phase	11	11.0%	12	12.0
Secretory phase	11	11.0%	11	11.0
Inadequate	7	7%	6	6.0
Atrophic endometrium	4	4.0%	4	4.0
Non secretory phase	4	4.0%	4	4.0
Endometrial polyp	2	2.0%	2	2.0
Hyperplasia with atypia	2	2.0%	2	2.0
Early secretory phase	1	2.0%	1	1.0
Endometrial carcinoma		1.0%	1	1.0
Endometrial glandular hyoertrophy	1	1.0%	0	0
Late secretory phase	1	1.0%	1	1.0
Total	100	100.0	100	100.0

Out of 100 subjects who had undergone pipelle the HPE reports were : secretory phase in 11, proliferative phase in 20, non secretory phase in 4 cases, 14 had no evidence of malignancy, 1 in late secretory phase, 2 cases had hyperplasia with atypia, hyperplasia with out atypia seen in 21 cases, 2 has features of endometrial polyp, 1 had endometrial glandular hypertrophy, 1 had Endometrial carcinoma, 1 had early secretory phase, 11 had disordered proliferative phase, 4 had atrophic endometrium, 7 had inadequate sample.

Graphical representation between ET and sampling with pipelle

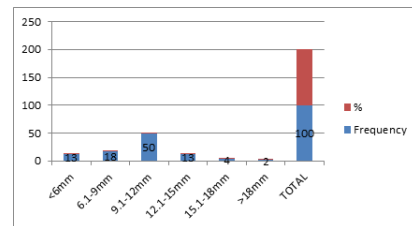


Fig : 1

Chi square=13,789, df=6, p= 0.032

Among 100 cases who had undergone pipelle sampling, adequate sample was obtained in 93 cases and inadequate samples in 7 cases. Inadequate samples obtained in 4 patients with ET <6MM, 2 patients with ET between 9.1-12mm and patient with ET between 12.1 mmm-15mm.

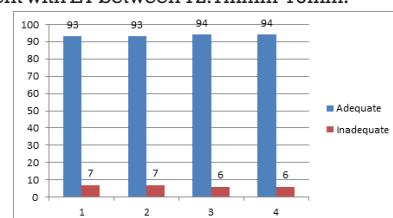


FIG 2: Graphical representation between ET and sampling with D&C

Chi square=16.858,df=6,p=0.010

Among 100 cases who had undergone D&C in 94 cases sufficient samples was acquired, while in 6 cases an satisfactory sample was obtained. Inadequate obtained in 4 patients with ET <6MM, 2 patients with ET between 9.1-12mm

Table 5:

Sensitivity	98.94%
Specificity	100%
PPV	100.0%
NPV	85.7%
Accuracy	99.0%

The pipelle sampling has a sensitivity of 98.94%, specificity of 100%, PPV of 100%, NPV of 85.7%, Accuracy of 99% in tissue adequately

DISCUSSION:

The current study was conducted in the department of obstetrics and gynecology, Government Medical College, Kadapa on 100AUB patients to compare the efficacy of pipelle endometrial sample with D&C. Endometrial biopsy is helpful in determining the cause of AUB. It can be done in number of methods. Each has pros and cons⁶

D &C is a surgical procedure that requires anaesthesia. The pipelle on the other hand, highly sensitive and precise test for endometrial cancer. The outcomes of pipelle and D&C pathology reports are compared in the study.

In the present study maximum cases belonged to 41-45 age group similar to these results, in Gelini mohaddam total maximum AUB cases were 40-45 years.

In the current study mean endometrial thickness was 10.27 +/- 3.15mm. It is in accordance with a study by Gelini moghaddam total in which the standard deviation of 5.17.

In the current study of as age increases, sample inadequacy with pipelle and D&C also increased. These association was statistically significant (p<0.05) Williams reported that with the pipelle, women over 54 had more insufficient samples. Baker et al found that increasing patients age was limited to insufficient pipelle sample.

In the current study by comparing pipelle to D&C and using the chi-square test, sensitivity of the pipelle in getting sufficient tissue is calculated to be 98.7%, specificity=100%, PPV=100%, and NPV=85.7%. In a study comparing pipelle to D&C, Shazea Fakur et al⁷ found that pipelle produced an acceptable sampling 98percent of cases and D&C in 100% of cases. pipelle exhibited 100% sensitivity, specificity, PPV, NPV. In another study by Naderi et al⁸ Pipelle and D&C were found to be in agreement in 89percent of instances Huang et al⁹ conducted another comparative study the sensitivity of pipelle and D&C in patients with low grade cancer was 93.8 percent and 97 percent respectively and 99.2% and 100% in patients with high grade cancer.

Adverse events associated with the procedures in the current study, 91 percent had no issues, whereas 5% complained of pain and 4% complained of bleeding. silver. Conducted a randomized trials using Novak and pipelle endometrial biopsy equipment shown that pipelle procedure has decreased pain scores (> = -3.40).

Fakhar et al Evaluated 100 patients with AUB. The endometrium was sampled using D&C and pipelle and histopathology reports were compared using D&C as the gold standard. pipelle has a 100% sensitivity and specificity in diagnosing cancer, hyperplasia and secretory endometrium.

The result reached that pipelle approach could detect hyperplasia and malignancy with high sensitivity and specificity. Tanreverdi et al Compared pipelle sampling to dilatation and curettage in 127 individuals. In this study using pipelle device, sufficient sample was obtained in 93 cases, whereas using D&C, adequate samples was acquired in 94 cases. Endometrial cancer and hyperplasia were diagnosed with 100 percent sensitivity and specificity. In a study by Behnamfar F and Arshad E the pipelle had a sensitivity and specificity of 94.12 percent and 100 percent, respectively for diagnosing malignant tumors. In 2005, Sarwar and UI Haque discovered that the pipelle biopsy exhibited 100% sensitivity, 98 percent specificity and 100% NPV for the diagnosis of endometrial hyperplasia. The pipelle exhibited 100% sensitivity, 100% specificity, 100% PPV, 100% NPV in the diagnosis of endometrial hyperplasia and atypia which is consistent with our findings.

CONCLUSION:

The pipelle device allows for quick and painless endometrial sample. It is possible to do as an outpatient procedure. When compared to D&C, pipelle is more cost effective and has higher patient compliance along with added benefit of no anesthesia or other procedural complications like as perforation. This methods sensitivity and specificity in the diagnosis of endometrial hyperplasia and cancer were comparable to the used D&C treatment. Pipelle sampling can be used as effective screening in outpatient department.

Conflict of interest: none

Source of support: NIL

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