



A COMPARATIVE STUDY OF PIPELLE ENDOMETRIAL SAMPLING WITH CONVENTIONAL DILATATION AND CURETTAGE IN PATIENTS WITH ABNORMAL UTERINE BLEEDING

Dr. V Bhavani Devi* MD (O&G), Associate Professor In Obstetrics And Gynaecology, Thoothukudi Medical College.*Corresponding Author

Dr.R.Raja Suganya MS (O&G) Post Graduate In Department Of Obstetrics And Gynaecology, Thoothukudi Medical College, Thoothukudi.

ABSTRACT The aim of the study was to compare the adequacy and accuracy of histopathological diagnosis of pipelle sampling with Dilatation and Curettage in abnormal uterine bleeding . 100 patients in the perimenopausal and postmenopausal age group were studied from out patient department .Distribution in relation to age, parity, mode of delivery, endometrial thickness, ease of procedure were studied. In D&C 100% of samples were adequate and in Pipelle ,adequate samples were obtained in 84%. The sensitivity of pipelle in diagnosing atypical hyperplasia was 100% whereas it was 50%, 80%, 76.92%, 78.94%, 89.47% for endometrial adenocarcinoma, endometrial hyperplasia, disordered proliferative ,proliferative and secretory endometrium respectively. The specificity of pipelle was 100% for all studied endometrial lesions. We concluded that the Pipelle sampling is simple , safe, easy and cost effective outpatient procedure in comparison with dilatation and curettage.

KEYWORDS : Abnormal Uterine Bleeding (AUB), Dilatation and curettage (D&C),Pipelle endometrial sampling

INTRODUCTION

Abnormal uterine bleeding is a major gynaecological problem, accounting for 33% of outpatient referrals including 69% of referrals in perimenopausal and postmenopausal age groups¹. It can be due to polyps, fibroids, endometriosis, malignancy, Infections. Pregnancy complications, iatrogenic and systemic diseases. Evaluation of AUB is important to confirm the benign and malignant nature of the lesion as early as possible. The risk of endometrial carcinoma in postmenopausal bleeding is 10%^{2,3}. D&C is commonly performed in AUB. In 60% of cases less than half of the uterine cavity is curetted, with added risk of anaesthesia, infection and perforation^{4,5}. This has led to the advent of simple methods of sampling such as Pipelle device. Pipelle is a disposable polypropylene syringe with inner plunger and can be used on outpatient basis^{6,7}. It does not require anaesthesia. There are still concerns regarding adequacy of sample obtained and non sampling of focal intrauterine lesions. Therefore this study is designed to determine accuracy and adequacy of endometrial sample by Pipelle for HPE in comparison to D&C.

MATERIALS AND METHODS:

This is a prospective study conducted over a period of 1 year from July 2019 to July 2020. 100 cases of AUB age > 40 years attending the outpatient clinic was studied. Premenopausal women with thickened endometrium >12mm and postmenopausal women with >4mm was included in the study. Pipelle sampling was done as out- patient basis. D&C was done for the same patient under anaesthesia. Both samples were sent for HPE. Adequacy and HPE results were compared. The data was analysed and P value of <0.05 was considered as statistically significant.

RESULTS:

Maximum patients belonged to age group of 40 -45 years.(55%). Out of 100 patients 73% were in perimenopausal and 27% were postmenopausal. In perimenopausal group 49.3% had endometrial thickness 12-15 mm and in postmenopausal group 55.55% had endometrial thickness between 8 – 11mm. In D&C ,100% of the samples were sufficient and in Pipelle adequate samples were obtained in 84%(Table 1). In age group of <50 years,adequate sample was obtained in 92.20% and in age group >50years,it was 56.50%. In perimenopausal group ,adequate sample was 91.78% and in postmenopausal group it was 62.96%. In endometrial thickness <10mm ,adequate sample was obtained in 55.55% whereas in endometrial thickness >11mm it was 90.24%. Out of procedures termed easy ,adequate sample was obtained in 89.24% and of termed difficult, adequate sample was obtained in 14.28%. The sensitivity of pipelle in diagnosing atypical

hyperplasia was 100% whereas it was 50%, 80%, 76.92%, 78.94%, 89.47% for endometrial adenocarcinoma, endometrial hyperplasia, disordered proliferative ,proliferative and secretory endometrium respectively (Table -2). The specificity of pipelle was 100% for all studied endometrial lesions. (Table -3) Pipelle sampling was found to be easy with increase in parity. All patients tolerated the procedure well. No major adverse effects were observed.

Table -1 Adequacy of sample for pipelle and d&c

PIPELLE SAMPLING	FREQUENCY	PERCENT
INADEQUATE	16	16.0
SUFFICIENT	84	84.0
TOTAL	100	100.0

For D&C 100% of samples were sufficient.

Table -2 Comparison Of Hpe Reports In Pipelle And D&c

D & C	P i p e l l e						
	Ade no Car cin- oma	Atypic al Hyper- Plasia	Hyp er Plas ia	Disor dered Prolif erati ve	Pro lifer ative	Sec ret ory	No Rep ort
ADENOCARCINOMA	2	1	1				
ATYPICAL HYPERPLASIA	4		4				
HYPERPLASIA	5			4			1
DISORDERED PROLIFERATIVE	13			10	2		1
PROLIFERATIVE	57				45		12
SECRETORY	19					17	2
NO REPORT	0						
TOTAL	100	1	5	4	10	47	16

Table -3 validity Of Pipelle Sampling For Each Hpe Reports

VALIDITY OF PIPELLE SAMPLING	SENSI TIVIT Y	SPECI FICIT Y	POSITIVE PREDICTI VE VALUE	NEGATIVE PREDICTI VE VALUE	ACC URA CY
ADENOCARCI NOMA	50%	100%	100%	98.98%	99%
ATYPICAL HYPERPLASIA	100%	100%	100%	100%	100%
HYPERPLASIA	80%	100%	100%	98.95%	99%
DISORDERED PROLIFERATIVE	76.92%	100%	100%	96.66%	97%
PROLIFERATI VE	78.94%	100%	100%	78.18%	88%
SECRETORY	89.47%	100%	100%	97.59%	98%

DISCUSSION:

In our study 100 patients of AUB including perimenopausal and postmenopausal women above 40 years were studied .Adequate sampling was obtained in 100% of D&C and 84% in Pipelle sampling. In the study by Sanam and Majid⁸ in 2015 adequate sample was obtained in 84.6% of Pipelle which was consistent with our study. In study conducted in Zoguldak Karamelmas University Turkey in 2004, 127 patients were studied. Adequacy was 77.16% in Pipelle and 89.76% in D&C. The study concluded that any failure to obtain adequate sample suggests endometrial curettage in high risk patients

for endometrial carcinoma. In a study by Navakumar N et al⁹ in 2018 out of 150 samples studied adequate sample by Pipelle was 87.6%, which is consistent with our study.

In our study 100% sensitivity and specificity was observed by Pipelle for atypical hyperplasia as observed in studies by Abdelazim et al¹⁰ 2013 and Fakhar et al⁶ in 2008. In our study out of 2 cases of adenocarcinoma, one was diagnosed as atypical hyperplasia by Pipelle. In a study conducted in Iran 2001, where 200 patients were involved, Pipelle had 100% sensitivity for carcinoma diagnosis. The study concluded that, Pipelle can miss focal cancer and polyps and hence negative biopsy in symptomatic patients must be followed by Fractional curettage or hysteroscopy.

In our study, sensitivity and specificity by Pipelle was 80% and 100% for endometrial hyperplasia, whereas sensitivity was 71% in Antonie et al¹¹ in 1997, 67% in a study by Demirkian et al¹² in 2012 and 92.30% in Sanam and Majid et al. In our study, even though Pipelle showed sensitivity of 78.94% and 89.47% for proliferative and secretory endometrium compared with Fakhar et al and Abdelazim et al which reported 94% and 100%, the accuracy in our study was 88% and 98% respectively.

CONCLUSION

Pipelle endometrial sampling is a simple, safe, easy cost effective outpatient procedure for detecting endometrial lesions in patients with AUB. When compared with D&C it does not require anaesthesia and hence anaesthesia related and other complications such as perforation can be avoided. Though the sample adequacy rate was 84% by Pipelle compared to D&C, the sensitivity and specificity of Pipelle in detecting atypical hyperplasia, hyperplasia and carcinoma were comparable to D&C. Owing to 100% specificity of Pipelle in diagnosing endometrial lesions, lesser time and fewer complications associated with the procedure, Pipelle endometrial sampling can be used as an effective screening procedure in AUB patients presenting in OPD.

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