

A STUDY OF THE POTENCY OF PIPELLE BIOPSY TECHNIQUE TO DETECT ENDOMETRIAL DISEASE IN PERIMENOPAUSAL / POSTMENOPAUSAL WOMEN

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ABSTRACT

Objective: To see the efficacy of the gynecological procedure of outdoor endometrial biopsy using pipelle biopsy.

Study Design: Prospective observational study.

Place and Duration of Study: Sampling was done at obstetrics and gynecology department Pak-Emirates Military Hospital Rawalpindi, from Jan 2018 to Aug 2018.

Methodology: A 100 cases of perimenopausal/postmenopausal women presenting with menorrhagia/menorrhagia after the age of 40 years were selected for the study. Pipelle biopsy was employed in all the cases.

Results: The patients presenting with metorrhagia, menorrhagia, polymenorrhagia and postmenopausal bleeding with mean age of 46 ± 3.26 were included in the study. Sixty eight (68%) patients had metorrhagia, 10 (10%) presented with menorrhagia, 10 (10%) patients had polymenorrhagia while 12 (12%) patients had postmenopausal bleeding. Histopathological results showed that 5 (5%) patients were suffering from chronic endometriosis, 20 (20%) had hormonal imbalances, 45 (45%) had proliferative endometrium, 18 (18%) had endo-metrial benign hyperplasia.

Conclusion: It is concluded that outdoor endometrial conventional biopsy using pipelle biopsy is cost-effective and convenient method for diagnosing endometrial diseases. The procedure while providing reliable histopathological results in all cases is cheap and causes minimal discomfort to patients.

Keywords: Abnormal uterine bleeding, Dilatation and curettage, Menopause, Pipelle biopsy.

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INTRODUCTION

Peri/postmenopausal bleeding after 40 years of age is one of the most commonly encountered complaints presented to gynecologists around the world. Abnormal uterine bleeding (AUB) is estimated to be prevalent in 3% to 30% reproductive women globally and the incidence tends to rise around menopause¹. In patients presenting with abnormal vaginal bleeding, the purpose of endometrial sampling is to exclude or diagnose endometrial hyperplasia and cancer. It is thus of paramount importance that early diagnosis is carried out by employing safe, cost-effective and minimally invasive methods². There are different methods of diagnosing endometrial pathology and obtaining endometrial biopsy, which can be carried out on inpatient or outpatient basis. The

most commonly used methods are transvaginal ultrasonography (TVS), aspiration curettage (Pipelle, Vabra), Dilatation and curettage (D&C) and hysteroscopy³. TVS may help in planning further diagnostic protocols and management methods but it cannot be solely used for carcinoma detection. In a study of 75 cases, the relationship between TVS findings and endometrium histopathology data was studied and it was found that 25.3% post-menopausal women with AUB had endometrial thickness greater than 12mm and 46.12% had carcinoma⁴.

In a study conducted on women with postmenopausal bleeding and endometrial thickness ≤ 4 mm, the likelihood of having a malignant condition was low⁵. Nevertheless, the importance of histological examination cannot be undermined. Saline infusion hysteroscopy is more accurate than TVS in diagnosing intracavity lesions⁶. Dilatation and curettage is the most commonly

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performed gynecological surgical procedure all over the world. Patients presenting with abnormal vaginal bleeding require a study of the endometrial tissue and routine dilatation of the cervix and curettage of the uterine cavity under anesthesia. However, this conventional method is now considered obsolete and is fast losing its place to minimally invasive, simpler, less expensive and safer techniques like an outdoor endometrial conventional biopsy, Vabra and Sampler. A major drawback of D&C is that it needs to be carried out under general anesthesia and is an inpatient procedure⁷. This method of endometrial biopsy by using Pipelle biopsy in the outpatient department is less painful, acceptable to the patient, cheaper and can easily be performed in an outpatient clinic without need for anesthesia. Outdoor endometrial conventional biopsy has a detection rate of 99%, however, it may miss up to 18% of focal lesions including polyps and fibroids, due to limitation of the only small amount of sample obtained^{8,9}. However the tumor stage cannot be efficiently diagnosed with preoperative endometrial biopsy due to limited sample, later on, D&C might be directed¹⁰.

Our study aimed to analyze the efficacy of pipelle biopsy as a diagnostic method to diagnose endometrial pathologies in all cases of AUB.

METHODOLOGY

This prospective observational study was carried out at the Obstetrics and Gynecology department of Pak-Emirates Military Hospital (PEMH) Rawalpindi after obtaining ethics approval from the Institutional Review Board (A/28/EC/74 dated 31st Jan 2020). The sampling technique used was non-probability purposive sampling. A hundred cases of perimenopausal and postmenopausal women presenting with complaints of menorrhagia/metorrhagia with the mean age of 46 ± 3.26 years were selected for the study. Patients with a scanty endometrial thickness on TVS and those who were unwilling for the outdoor procedure were excluded from the study. Informed written consent was taken from all included participants after explaining to them

the purpose and methodology of the study. A detailed history of the patients with regards to abnormal vaginal bleeding was taken. Pelvic examination was carried out in all the patients. Vaginal ultrasonography for measurement of endometrial thickness, myometrial and ovarian pathology was carried out in all patients. Pap smear and vaginal culture were also carried out. Baseline blood chemistry was done in all cases.

The procedure of endometrial biopsy was carried out in the outdoor patient department. The patients were counseled about the procedure and placed in a dorsal position. Cusco's speculum was inserted and the anterior lip of the cervix was held with Volsellum. The sample was taken from uterine walls and placed in formalin containing sample container and labeled accordingly. The total time spent by the patient in the department was 10-15 minutes. The biopsy samples obtained were sent for histopathological examinations and reports were obtained from the respective department's laboratory.

RESULTS

The study was conducted on a 100 patients over a period of 8 months, from January 2018 to August 2018 at Gynecology and Obstetrics

Table: Clinical presentations of the study participants.

Premenopausal and Postmenopausal AUB Manifestations	Number of Patients n (%)
Metorrhagia	68 (68%)
Menorrhagia	10 (10%)
Polymenorrhagia	10 (10%)
Postmenopausal bleeding	12 (12%)

department of PEMH Rawalpindi. The age of the patients ranged from 40-53 years. The patients presenting with metorrhagia, menorrhagia, polymenorrhagia and postmenopausal bleeding were included as study participants. In the study, 68 (68%) patients had metorrhagia, 10 (10%) were presented with menorrhagia; 10 (10%) patients had polymenorrhagia while 12 (12%) patients had postmenopausal bleeding (table). Histopathological results showed that 5 (5%) patients

were suffering from chronic endometriosis, a 20 (20%) had hormonal imbalances, 45 (45%) had proliferative endometrium, 18 (18%) had endometrial benign hyperplasia, only 1 (1%) had endometrial carcinoma, 1 (1%) had an endometrial polyp, 2 (2%) had non-differentiated hyperplasia, 3 (3%) had early atypical hyperplasia and 5 (5%) had secretory endometrium (figure).

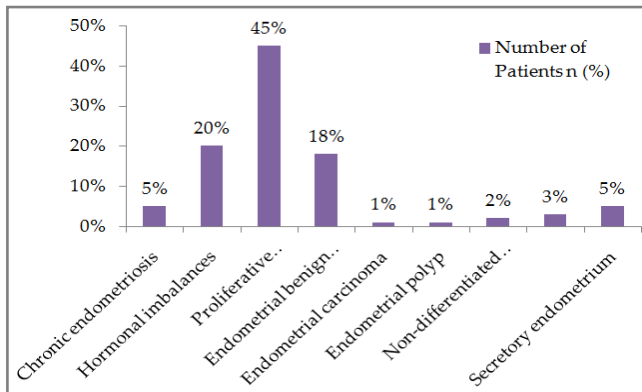


Figure: Histopathological Results of Endometrial Biopsy.

DISCUSSION

The most common gynecological malignancy in developed countries is endometrial cancer¹¹, with a worldwide incidence of 9 in 1000,000 women suffering from it. In Pakistan, the prevalence of uterine and cervical cancers in women of all ages is 6% according to WHO 2018 statistics¹². Prolonged estrogen exposure leads to unchecked proliferation of endometrial cell lining leading to carcinoma. Polycystic ovarian syndrome (PCOS), obesity, nulliparity, type 2 diabetes mellitus are some of the causes of continuous estrogen exposure^{13,14}.

The most common symptom of endometrial carcinoma is AUB. Therefore patients presenting with AUB should be tested for uterine cancers¹⁴. Postmenopausal AUB in a woman is defined as bleeding from the genital tract at least 12 months after the last menstruation¹⁵. Prognosis of endometrial cancer is greatly dependent on diagnosis at the early stages of the disease and curative rates decrease with lower histological differentiation and advanced stage. Endometrial cancer is the third most common cause of gynecological

death besides ovarian and cervical cancer and the most common cancer of the genital tract in developed countries¹⁶.

Our study showed that it was a cost-effective strategy to carry out outdoor endometrial conventional biopsy via pipelle biopsy, and it saves the patient multiple visits to the hospital and overnight stays in hospital. Our results were similar to another study conducted in Egyptian postmenopausal women with AUB, they compared the effectiveness of two sampling techniques; pipelle sampler in outpatient setting and D&C. No significant difference was found in the adequacy of both methods however the secondary outcomes differed due to differences in discomfort level and pain caused¹⁷.

In 98% premenopausal and 90% of postmenopausal women, benign endometrial hyperplasia has been detected. This emphasizes the importance of conventional endometrial biopsy. However, sometimes TVS and hysteroscopy or a combination of any of these with endometrial biopsy might be enough to rule out the presence of carcinoma¹⁸. Over-investigation should be prevented when the results of the endometrial biopsy are enough. In a study in Montreal, a meta-analysis was carried out to determine the incidence of over-investigation practiced by gynecologists. They found clinically significant over-investigation in patients with AUB. Indications should be made after thoroughly evaluating the symptoms such as menorrhagia in women ages 41 to 45¹⁹. In accordance with our study findings, observations from a Chinese study revealed the efficacy of pipelle biopsy as compared to the conventional D&C method. In the study, 245 participants enrolled subjected to endometrial biopsy using pipelle experienced less pain and discomfort²⁰. In another comparative study comprising 81 study participants with AUB were subjected to pipelle biopsy followed by D&C. The findings revealed pipelle biopsy outpatient procedure as a specific method for the detection of hyperplasia and malignancy²¹. The endometrial biopsy using a pipelle device has become a convenient method based on its simplicity and less pain comparati-

vely. Endometrial biopsy using the pipelle method is being widely used to detect early endometrial pathologies including endometrial cancer. However, the effectiveness of the procedure using a pipelle device depends on various factors including age, BMI, menopausal status²².

Most patients expressed satisfaction as the procedure did not cause any significant discomfort to them. The procedure is very easy to perform and there was negligible blood loss and thus full blood count is not necessary to rule out anemia.

RECOMMENDATIONS

This method to diagnose endometrial pathologies can replace the traditional D&C to prevent over-investigation, as the results of preoperative endometrial biopsy (outpatient setting) are adequate in ruling out the uterine carcinomas and the patient is protected from hazards of general anesthesia as well. So, it is more convenient for the gynecologist whereas D&C under general anesthesia needs full pre-anesthesia evaluation and investigations. This procedure can be carried out at the same time and settings of pelvic examination without the need of analgesia, anesthesia or premedication of any sort. However, in case of malignancy D&C should be recommended after a thorough examination to determine the grade of the tumor.

CONCLUSION

Outdoor endometrial conventional biopsy using pipelle biopsy is cost-effective and convenient. The procedure while providing reliable histopathological results in all cases is cheap and causes minimal discomfort to patients.

CONFLICT OF INTEREST

This study has no conflict of interest to be declared by any author.

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