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Gynaecology

UTILITY OF ENDOMETRIAL ASPIRATION CYTOLOGY FOR ASSESSING ENDOMETRIAL STATUS OF POSTMENOPAUSAL WOMEN

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ABSTRACT

Objective: Endometrial aspiration cytology (EAC) is an acceptable and valuable diagnostic procedure for screening the endometrial status. Objective of this study is to know the utility of this procedure as a screening procedure for detection of Endometrial malignancies in Postmenopausal women with Dysfunctional Uterine Bleeding.(DUB)

Methods: Endometrial aspiration obtained using 5F infant feeding tube attached to 20cc disposable syringe. Endometrial aspiration material was smeared directly on to three clean glass slides. One smear was wet fixed for papanicolau staining and the remaining slides were air dried for Giemsa stain. Smears were reviewed for cytomorphological findings and were correlated with the histopathological findings.

Results: 50 postmenopausal women presenting with abnormal uterine bleeding were studied. Age of the patients ranged from 45 to 75 years. Various diagnostic categories diagnosed on HPE of these specimens were endometrial atrophy (23 cases), proliferative endometrium (5 cases), Secretory endometrium (2 cases), endometrial hyperplasia (15 cases), endometrial carcinoma (3 cases), and polyps (2 cases).

Conclusions: Endometrial aspiration is an effective, useful and a minimally invasive procedure. With an experienced cytologist, it can be used routinely for the screening of Postmenopausal women with DUB for Endometrial malignancies, provided all the points of discrepancies are taken care of.

KEYWORDS : Endometrial aspiration cytology, Endometrial carcinoma, Postmenopausal women, Dysfunctional Uterine Bleeding.(DUB),HPE

Introduction

Post-menopausal bleeding is defined as bleeding that occurs after one year of amenorrhea in a women who is not receiving any hormone replacement therapy.

Post-menopausal bleeding should always be investigated because it could be a sign of endometrial carcinoma or its precursors such as endometrial hyperplasia. Endometrial carcinoma has a much higher cure rate if diagnosed early. Stage 1 endometrial cancer has a 5-year survival rate of 98%; hence early diagnosis improves chances of cure.(1,2)

Etiology of Post Menopausal Uterine Bleeding

Atrophic endometrium	-	60-80%
Exogenous estrogens	-	15-25%
Endometrial cancer	-	10%
Endometrial hyperplasia	-	10%
Endometrial or cervical polyp	-	2-12% (Novak;s Gynaecology)

Endometrial cytology is the accepted first step in evaluating patient with abnormal uterine bleeding or suggested endometrial pathology. Diagnostic accuracy of endometrial cytology is 90-98% when compared with subsequent findings at fractional curettage or hysterectomy. Endometrial cytology is the most commonly used diagnostic procedure for post menopausal bleeding it provides adequate sample for diagnosis of endometrial problems in 90-100% of cases.

Endometrial cancer has a peak age of 55 years. 75% cases are post menopausal. The role of unopposed estrogens as well as risk factors for obesity, diabetes, hypertension, low parity are well known. Patients with post menopausal bleeding are considered to have cancer until proven otherwise. In the past such patients were routinely subjected to D & C. Ultimately D & C was largely replaced by vabra aspiration which uses a metal cannula attached to suction which was like a mini D & C this was found to be 86% accurate in diagnosing cancer. Cytological technique can be used as the primary means of morphological investigation in patients with PMB. A negative result from the cytological investigation, together with a negative result from the clinical investigation and a negative cervical smear, is considered sufficient investigation for PMB.Hence the present study was undertaken to assess the utility of Aspiration cytology of endometrium for evaluation of post menopausal uterine bleeding.

Materials and Methods

The Hospital-based study was conducted on patients with postmenopausal bleeding in the Department of Obstetrics and Gynaecology,Tirunelveli Medical college during the period of July 2017 to December 2017.Fifty women with post menopausal bleeding were selected based on the following inclusion an exclusion criteria, were subjected to aspiration cytology of endometrium and fractional curettage for diagnosing underlying pathology of post menopausal bleeding. Comparative efficacy of Aspiration cytology of endometrium with fractional curettage were correlated with the Histopathologic results from hysterectomy and the same was identified as gold standard.

Inclusion Criteria

1. Any women who develops vaginal bleeding following cessation of periods for a minimum of 1 year (post menopausal bleeding)
2. Not on any hormone therapy
3. No demonstrable pelvic pathology.
4. No evidence of blood dyscrasias
5. Age of women 40 and above (to exclude premature menopause)

Exclusion Criteria

1. Women on contraceptives
2. Women with blood dyscrasias
3. Women with demonstrable pelvic pathology like polyp, myoma etc.
4. Cancer cervix.

Procedure:

After detailed history and examination, pelvic ultrasound was performed. Patients were asked to evacuate their bladder. With patient in dorsal position, Sim's speculum was inserted into vagina to retract posterior vaginal wall, and anterior lip of cervix was held with vulsellum. Manual Vacuum Aspirator contains small cannula of different sizes which is attached to a piston which contains double lock. Patient is advised to take a non – steroid inflammatory drug 1 hour before the procedure to decrease uterine cramping. Cervix is swabbed with iodine. Cannula of smaller size is inserted through cervical os. If difficulty is encountered, a tenaculum can be applied to anterior lip of cervix to apply gentle counter traction. Para cervical block is given. In cases in which there is difficulty in inserting, 200 mg Misoprostol can be inserted into vagina to dilate the cervix and patient returns to hospital the following day.

Once the cannula is in the uterine cavity, usually at a depth of 7-9mm, suction is created by withdrawing the piston, after locking. While

moving vacuum aspiration in and out, cannula is slowly rotated 3600, so that sample is taken from wide area of uterine cavity. To increase area of sampling, cannula can be advanced again into cavity before it is withdrawn entirely. Tissue is placed in a container of formalin and sent to histology.

Results

Majority of patients belonged to age group of 45-50 years (36%). Youngest patient in this group is 45 & oldest patient is 73 years old.(Table 1)

Table 1: Age incidence of the cases

Age group(years)	N(%)
45-50	36
51-55	5
56-60	4
61-65	2
66-70	2
71-75	1
Total	50

The most common presenting complaint in this study was menorrhagia. Various diagnostic categories diagnosed on HPE of these specimens were endometrial atrophy (23 cases), proliferative endometrium (5 cases), Secretory endometrium (2 cases), endometrial hyperplasia (15 cases), endometrial carcinoma (3 cases), and polyps (2 cases).Findings in Aspiration Cytology of Endometrium was depicted in **Table -2.**

Table -2:Findings in Aspiration Cytology of Endometrium

Findings	Number	%
Atrophic	23	46
Proliferative	5	10
Secretory	2	4
Hyperplasia	15	30
Cancer	3	6
Polyps	2	4

Out of 50 Patients, 35 underwent hysterectomy because of Suspicious pathology, Abnormal findings,Malignancy,Patients themselves opted for surgery and Not reliable for follow up. The findings of Aspiration cytology of endometrium was correlated with the hysterectomy specimens in these women. Those patients with no demonstrable pathology or symptoms were followed up. 8 patients were lost to follow up after aspiration cytology of endometrium & 7 patients did not have any further episode of bleeding. They are still being followed up.

Discussion

Endometrial carcinomas are the most common pelvic gynaecologic malignancy in developed countries, with its incidence rising in developing countries.[3] Patients with a higher risk for harbouring endometrial cancer might benefit from an effective and low-cost screening test for endometrial cancer. Earlier tumour detection in such patients offers the opportunity to improve patient survival.[4]

Endometrial aspiration is not a very popular and well-accepted procedure in India due to various reasons. One of the factors is the unavailability and the high cost of the aspiration instrument. To overcome this obstacle, we used 5F infant feeding tube attached to 20cc disposable syringe which is an easily available low-cost device. The other factors being that the diagnostic criteria of endometrial cytology have not yet been fully established. Although endometrial histology is the confirmatory test in this study, yet we recommend the use of EAC as a routine preliminary procedure in women with PMB as it is an easier, safer, and reliable OPD procedure. Moreover, when the cellular material is inadequate, this procedure can be repeated without much inconvenience to the patient, as was done in the present study.

The most common presenting complaint in this study was menorrhagia. Polymenorrhea was found to be the main complaint in other studies.[5] Cytological examination of the endometrium is particularly useful in postmenopausal women having endometrial atrophy that may result in a high inadequacy rate of endometrial biopsies. In this context, endometrial cytological samples have been shown to be diagnostic in a significantly higher percentage of cases with respect to biopsy sample.[6]

All the patients in the study group underwent the procedure of Aspiration cytology of endometrium.15 Patients (30%) had normal findings and 35 Patients (70%) had abnormal findings. Various diagnostic categories diagnosed on HPE of these specimens were endometrial atrophy (23 cases), proliferative endometrium (5 cases), Secretory endometrium (2 cases), endometrial hyperplasia (15 cases), endometrial carcinoma (3 cases), and polyps (2 cases). In a study conducted by Kawana et al.[7] EAC was found to be useful for endometrial cancer cases with normal curettage findings as part of early detection. In another study by Segadal et al.,[8] cytology and curettage gave a diagnosis in 96% of patients while curettage alone gave a diagnosis in 82%, and cytology alone in 90%. They concluded that cytological method is simple and may be of special value in postmenopausal patients. Sister et al.[9] in a similar study in symptomatic peri- and post-menopausal patients concluded that a negative result on cytological aspiration smears does not rule out a malignant process, especially in persistently symptomatic patients and further investigations are mandatory.

Cytological technique can be used as the primary means of morphological investigation in patients with PMB. A negative result from the cytological investigation, together with a negative result from the clinical investigation and a negative cervical smear, is considered sufficient investigation for PMB. If the cytological findings indicate that further investigation is necessary curettage with histological analysis can be performed. With the intelligent and aggressive application of outpatient screening, uterine cancer can be diagnosed when patients are virtually completely curable, thus resulting in further reduction in mortality from this disease.

Conclusion

Endometrial aspiration is an effective, useful, and a minimally invasive procedure. This technique would eliminate an endometrial curettage in those patients in whom there is no clinical suspicion of endometrial carcinoma, and the cytology is negative. We hope that this study will inculcate further interest amongst the gynaecologists and cytologists and a good coordination among them are required to make aspiration cytology a routine screening procedure.

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