SCREENING OF PERIMENOPAUSAL FEMALES BY ENDOMETRIAL ASPIRATION CYTOLOGY: CORRELATION WITH HISTOLOGY

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SUMMARY

Endometrial aspiration provides abundant cellular material for study. This helps to detect clinically unsuspected cases of uterine cancer. This procedure can be utilized as a screening programme for menopausal women for diagnosing of pre-cancerus lesions of uterus.

Introduction

In the detection of adenocarcinoma of endometrium, vaginal and cervical smears have proved disappointing. Diagnostic dilatation and curettage, the most reliable method to detect the early endometrial carcinoma and pre-cancerous lesions of endometrium, requires hospitalisation, besides the risk of anaesthesia. Therefore, an attempt was made to find out the diagnostic accuracy of endometrial aspiration which is a similar and alternative method to obtain the endometrium.

Material and Methods

Two hundred patients in the perimenopausal age attending the Gynaecology out patient department of M.L.B. Medical College, Jhansi, were studied. Detailed history, general, physical and local examination was made. Uterine aspirate was taken in out patient department. A metal cannula was introduced into the endometrial cavity above the internal os after holding the anterior lip of the cervix with volsellum. A 20 c.c. syringe was attached to the cannula and a low suction was done. Cannula was then removed and a drop or two of the aspirated material was smeared on a clean glass slide which was immersed in a fixative, consisting of 80% alcohol with equal amounts of ether. Fixed smears were stained with Papanicolau's stain.

In all these cases an endometrial biopsy was done subsequently and the endometrial findings compared to those obtained from uterine aspirate.

Results

Age: The patients studied were between the age of 40 to 70 years. Maximum number of them were in the age group of 56-60 years.

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Parity: Most of the patients in the study were multiparous.

Menstrual History: Ninety-five patients were post-menopausal and 05 cases were pre-menopausal. They attended the hospital either for prolapse uterus (42 cases), uterine bleeding (121 cases), prolapse with vaginal bleeding off and on (21 cases), pain in abdomen (3 cases), lump in abdomen (5 cases), and excessive vaginal discharge (8 cases).

Cytological findings: The smear was made and stained by a papanicolaou and were studied in great detail regarding phasing of cycle and presence or absence of normal and cancer cells.

Table I shows that on studying the cytology smears of the 200 cases, proliferative phase was found in 35.5 cases, Secretory phase in 45% cases, simple and cystic hyperplasia was found in 11% cases, adenomatous hyperplasia was seen in 2.5% cases, 3% cases were of malignancy and in 2% cases material was inadequate for diagnosis.

TABLE I
Endometrial Aspiration Showing Findings in 200 Cases

Cytology findings	No. of cases	% of cases
Proliferative phase	71	35.5
Secretory phase	90	45.0
Hyperplasia simple and cystic	22	11.0
Adenomatous	2	1.0
Atypical	2	2.5
Malignancy	6	3.0
Inadequate	4	2.0
Total	200	100.0

In all the above cases endometrial biopsy was also done and histopathological findings were studied.

Table II shows the findings of the histopathological study. 41% cases were of proliferative phase, 43% cases were of secretory phase, 7% cases were of simple and cystic hyperplasia, 1% cases of adenomatous hyperplasia 2.5% cases of malignancy and 3% cases were inadequate for diagnosis.

TABLE II
Histological Findings in 200 Cases

Histological findings	No. of cases	% of cases
Proliferative phase	82	41.0
Secretory phase	86	43.0
Hyperplasia simple and cystic	14	7.0
Adenomatous	2	1.0
Atypical	5	2.5
Malignancy	5	2.5
Inadequate	6	3.0
Total	200	100.0

Correlation between cytological and histological findings is shown in Table III. Positive correlation in malignant cases was 83.3%, while in benign lesions was in 63.3%.

Discussion

With recent advances in medical practice it has been the urgent demand to establish certain diagnostic methodology for detection of endometrinal carcinoma. Various intrauterine devices have been utilized for screening endometrial carcinoma. These methods are advantageous in aspect of simplicity and easy procedure, can be performed on O.P.D. patient without hospitalization and anaesthesia. Various intrauterine devices includes aspiration, jet washings, lavage and brush techniques (Regan, 1954; Johnson, 1968; Rodrigues *et al*, 1974; Sagar *et al*, 1981; Jacquline *et al*, 1982).

TABLE III
Correlation Between Histology and Cytology Finindgs

	Cytology	Histology	False positive (%)	Positive Correlation (%)	False negative (%)
Proliferative	71	82	—	86.5	13.5
Secretory phase	90	86	4.5	95.5	—
Hyperplasia simple	22	14	36.4	64.6	—
Adenomatous	2	2	—	100.0	—
Atypical	5	5	—	100.0	—
Malignancy	6	5	16.7	83.3	—
Total	196	194			

The diagnostic accuracy of the procedure have been reported from 100% to 67%. (Regan *et al*, 1954; Sagar *et al*, 1981; Ambiya *et al*, 1981; Vuopals, 1977; Vasikaous *et al*, 1975).

The present study describes a good positive correlation between cytological and histological findings. In malignancy of endometrium 8.33%; positve correlation was found, while in suspecious or atypical cases correlation was 100%. In cases of hyperplasia the positive correlation was only 63.6%.

Benign lessions which are diagnosed on cytological examination showed poor correlation with histological findings. Jacquline *et al* (1982) also found only 68.4% accuracy rate in benign disorders while Sagar (198) reported 88.8% accuracy rate. In contrast to these reports Ambiye *et al* (1981) had found 100% accuracy rate in benign lesions.

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