REVIEW OF LITERATURE
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Previously, gynaecological carcinoma was diagnosed on the basis of symptoms and histologically at an advanced stage. In 1943 Papanicolaou and Traut diagnosed uterine cancer by vaginal smear. Results were poor showing variable accuracy figures (18-94% of accuracy).

Later on various other workers had diagnosed endometrial carcinoma by studying ectocervical sample (Ayre, 1947), endocervical samples (Reagan and Sommerville 1954; Boschann, 1958). By these slides accuracy rate for endometrial carcinoma was 70% and 61% respectively.

Other methods for diagnosing endometrial carcinoma was vaginal cervical endocervical smear examination which was carried out by various workers like Timonen and Purola (1962); Johnsson and Stormby (1968) and Frick et al (1973) and Burk et al (1974). The results were very poor showing 42.2% diagnostic accuracy.

As early as 1943 Cary was the first to develop a practicable technique of aspiration, to draw an intrauterine cell sample.
In 1947 William and Stewart had, diagnosed cases of endometrial carcinoma by endometrial aspiration. Two hundred cases of more than thirty six years of age were studied. All the cases showed proliferative endometrium except six of the eight hyperplasias in post menopausal age group. Patients of carcinoma of endometrium belonging to age forty three years to seventy eight years and eighteen cases were diagnosed as adenocarcinoma of the endometrium.

In 1947 Gusberg also studied the entity of adenomatous hyperplasia and these patients were followed in a prospective manner for about ten years. In 1963 he and Kaplan were able to show that the rate of progression from adenomatous hyperplasia to adenocarcinoma was 11.8%.

In 1949 Papanicolou performed cytological diagnosis of uterine cancer by examination of uterine secretions. The results with adenocarcinoma of endometrium were much better than the previously reported. In the first group of one hundred and twenty four cases, there were four cases of adenocarcinoma of the endometrium and one of the cervix. In the second group of seven hundred and seventy seven cases, there were five adenocarcinoma of the endometrium and one of cervix. All the cases were diagnosed correctly by the smear.

In 1952 Hecht studied one hundred and twenty five cases by the endometrial aspiration smear technique.
Age group of the patients varied from thirty four to seventy one years. Eighty six of these patients presented symptoms such as menorrhagia, metrorrhagia and bleeding per vaginum off and on. Fifty two of the one hundred and twenty five cases were of postmenopausal age group, seventy three were of premenopausal age group. Out of fifty two post-menopausal patients, thirty five were having bleeding. In all these cases, sixteen patients had adenocarcinoma of the endometrium. Twelve of these or seventy five per cent were discovered in the post-menopausal group, four among pre-menopausal women. Endometrial aspiration smears were positive for adenocarcinoma in all sixteen cases. Six of these cases were diagnosed by endometrial smears. These findings indicate significance of endometrial aspiration smears.

Reagan (1954) performed a cellular study of uterine aspirations and studied five hundred and thirteen patients who were to undergo some operative procedure in the Gynaec. department of Cleveland Hospital. There were fifteen aspirations obtained for cystic hyperplasia, none of which were misinterpreted as adenocarcinoma. In three of the four patients who showed an atypical hyperplasia of the endometrium no erroneous interpretation was made. In one case, however, the specimen was regarded as being from adenocarcinoma.

Among five hundred and thirteen women subjected to endometrial aspiration, there were twenty with proved
adenocarcinoma. Cellular examination of the endometrial aspiration permitted recognition in eighteen of the twenty cases.

Jordan and Bader (1956) found an accuracy of seventy six per cent in vagino-cervical smear and eighty four per cent in endometrial smears. By endometrial smears formerly it was possible to diagnose only well differentiated carcinoma. It is now possible to recognize as separate entities the various metaplasias as well as definite atypias.

Hecht (1956) has done a study of the endometrial aspiration smear in order to determine its accuracy in diagnosing endometrial lesions. It is a simple practical office procedure in qualified hands and the endometrial smears fixed the source of material and thus reduced the difficulty of determining whether the cells are atypical endocervical or endometrial in origin.

An accuracy of 92.3% in the use of endometrial aspiration smear in corporeal carcinoma was found by him. This procedure is of clinical value as it reflects very early malignant changes and indicates early hyperplastic changes in endometrium and the diagnosis of endometrial hyperplasia made on basis of endometrial aspiration smears has been validated. It is advocated as a routine preliminary procedure in the investigation of abnormal uterine bleeding.
Jameson (1961) conducted a study on fifty one known cases of endometrial carcinoma and a total of seven hundred and eighty patients were screened by one or other of the three intra-uterine smear techniques. The negative results were confirmed by curettage in seven hundred and fifty two cases. Twenty nine of these cases were investigated by aspiration technique and twenty four gave correct positive smear results. Of five hundred and thirty three out patients examined by this technique, one clinically unsuspected case was detected and one smear was incorrectly reported as positive. Confirmation of the negative results was obtained by curettage in one hundred and eighteen cases.

In order to dislodge endometrial cells more effectively than is possible by aspiration. Ayre (1955) developed his brush method: natural bristles fixed to the tip of a cannula were used to scrape the walls of the uterine cavity. The material attached to the bristles was smeared on a slide, fixed and stained.

Fox and Turner (1962) did endometrial brushing in five hundred patients. Their purpose was to correlate cytologic and histologic findings obtained by curettage or hysterectomy.

Slaughter (1962) performed biopsies of endometrium by Novak suction curette and reported seventy six per cent accuracy for endometrial cancers.
Rascoe (1963) conducted his study on six thousand four hundred and sixteen patients and obtained a vaginal and endometrial aspiration smear and also performed diagnostic curettage on these patients.

One hundred and three malignancies were diagnosed in this group of patients.

Having regard to age incidence of endometrial carcinoma and its symptomatology it would be worthwhile utilizing the aspiration technique under the following conditions.

a) Late menopause that is over fifty years.

b) Post menopausal bleeding associated with and attributable to hormonal therapy.

c) Post menopausal bleeding without adequate diagnosis that is failure to obtain any curettings for histological examination either by biopsy curettage or at operation.

d) Recurrent post menopausal bleeding, example several months after previous curettage.

e) Patients with post menopausal endometrial hyperplasia.

Dowling (1969) states that endometrial carcinoma is rarely diagnosed in the asymptomatic state and although it is a relatively slow growing tumour overall survival rate is not commensurately good. A precise method
suitable for routine use on asymptomatic patients could greatly enhance survival. Even the Novak Curette is not hundred per cent accurate.

Nahhas (1971) studied two hundred and twenty five patients with endometrial carcinoma representing 28.7% of gynaecologic malignancies and 1% of gynaecologic admission. 77% of the patients had stage one disease and 55% were over sixty years old, 14.5% were pre-menopausal and abnormal or postmenopausal bleeding prompted medical consultation in seventy eight per cent. Cytological smears were positive in only twenty five per cent of the patients. The survival was affected by age at diagnosis and stage of disease and cellular differentiation of the tumour.

A comparison has been made by Saunders (1972) of the histological appearances of the endometrium of seventy three patients undergoing vacuum curettage of the uterus without anaesthesia followed by conventional curettage under general anaesthesia a day later. Vacuum curettage specimens may show epithelial cell cytoplasmic vacuolation which may falsely suggest ovulation has taken place and a loose stromal pattern which may mask cystic hyperplasia. Conventional curettage specimen on the following day may show a pattern of endometritis.

One endometrial polyp and one case of cystic hyperplasia were diagnosed only by conventional curettage.
The discomfort produced by vacuum curettage was comparable with dysmenorrhoea and in all but two patients it lasted for less than one hour.

They have reported a failure to obtain a specimen in sixteen cases out of seventy three of which six were post menopausal with atrophic endometrium.

Denis and Barnett (1973) and Walters (1975) stated that concept of vacuum curettage had been applied to make an early diagnosis of uterine carcinoma. Six hundred and forty patients had undergone the procedure of suction curettage by Vabra aspirator. Eighteen had adenocarcinoma and all eighteen were diagnosed by this technique. There was a high accuracy in diagnosing endometrial hyperplasias with the vabra aspirator.

American Cancer Society (1973) has stated that to approach the ninety to ninety five per cent accuracy of current screening methods for endometrial malignancy, it is necessary to obtain larger numbers of well preserved cells directly from endometrial cavity.

In 1973, Milan used a new technique to study the endometrial cytology. He stated that the post menopausal mucus is usually very thick and tenacious, acting as a cork to plug up the endocervical canal. He reported a technique in which the two part instrument consists of a soft plastic spiral was introduced into the uterus and was
rotated the second instrument is extruder paddle the
exfoliated cells were then collected with a spatula and
smeared onto a slide. In their preliminary 350 tests
two asymptomatic adenocarcinomas were detected.

Mathews (1973) did a comparison of vacuum
aspiration and conventional curettage in the management
of abnormal uterine bleeding. Vacuum aspiration proved
more effective than conventional curettage in obtaining
at least some material from inside the uterus.

When a uterus is small and the uterine cavity
otherwise empty, the delivery mechanism of vacuum
aspiration will ensure that all material obtained reaches
the operator. It may be that vacuum aspiration did not
reveal any metropathic endometrium in the fourteen
premenopausal patients treated for continuous bleeding
because the cannula was often blocked by blood clots.

Regarding the practicability of the procedure
it has been reported that about ten per cent of attempted
vacuum aspirations are abandoned because of pain or
inability to cannulate the cervix.

Aspiration techniques for cytologic diagnosis
have been available for more than thirty five years.
Samples are then smeared onto a slide and fixed in the
same manner as routine papaniculou smears. Most studies
of aspiration techniques have reported accuracy of eighty
four to ninety three per cent.
Vabra aspiration instrument consists of a 21 cm long steel tube 3 mm in outer diameter. The slightly curved distal end has an opening of 2 x 16 mm. The proximal end has two suction release holes. The cannula is welded to a plastic cap of a plastic collection chamber, which contains a perforated plastic cylinder that serves as a filter to arrest mucosal fragments. The apparatus is connected with a flexible tube to a vacuum exerting 3/4 (600 mm Hg) atmosphere vacuum in 3 seconds.

The aspiration cannula was inserted through the cervix as far as the fundus. Pressure equalizing holes being covered with a finger. Vacuum was applied. This was repeated around entire uterus in 6-8 different directions. The material obtained was fixed in 10% formalin.

Cohen (1974) performed screening for endometrial cancer and reported that Vabra aspiration was highly accurate in diagnosis of both pre-cancerous lesions and frank carcinoma, when compared to conventional dilatation and curettage or hysterectomy. He reported an accuracy of greater than ninety five per cent overall with hundred per cent correlation in cystic and adenomatous hyperplasia and frank carcinoma although there were only nine cases of carcinoma.

The results of endometrial aspiration in nine hundred and eighty three out patients and five hundred
patients hospitalized for diagnostic curettage or hysterectomy were included in study.

Aspiration device used in this study can be a safe, simple means for detecting endometrial adenocarcinoma with an 84.4% of accuracy. Acceptability was good. Effectiveness of this method in detecting hyperplasia as well as in early detection of small, well differentiated adenocarcinomas of the endometrium remains to be determined. It is important to note that the approach to diagnosis of endometrial carcinoma outlined above requires that the patency of the endocervical canal be established. This in itself is essential regardless of subsequent method of obtaining cells for cytological examination (Muenzer et al, 1974).

In four hundred and fifty three women in whom normal endometrial cells were obtained by endocervical aspiration in the second half of the cycle NG et al (1974) found the incidence of abnormalities to be 28.5% including an incidence of adenocarcinoma of two per cent.

Vassilakos (1975) reported a diagnostic accuracy of ninety nine per cent in hundred patients admitted for either curettage or hysterectomy. Five unsatisfactory cases, seventy four benign cases, four suspicious and fourteen malignant cases were detected by the jet wash technique. By endometrial aspiration one unsatisfactory case, eighty one benign cases, four suspicious cases and fourteen malignant cases were detected.
The jet wash apparatus consists of a sterile packed disposable unit consisting of a polythene double lumen cannula with an adjustable acorn stopper, a 30 ml syringe and a reservoir for irrigating solution. The outer diameter of the double lumen cannula is 4.6 mm.

15 - 50 ml of normal saline was injected into the uterine cavity near the fundus. For the preparation of cytological specimens, no fixatives were added and the samples were prepared 1-3 hours after they had been taken.

Diagnosis by the jet wash technique has been found to be extremely accurate, the accuracy rate approaching ninety to hundred per cent for both cancerous and pre cancerous lesions. Anderson (1976) reported a false negative rate of forty per cent in a series of ten patients with adenocarcinomas of the uterus and a false negative rate of thirty six per cent in a series of eleven patients in endometrial brush technique.

Bernard et al (1977) studied the correlations between series of five hundred intra-uterine lavages and of three hundred and fifty four pathological examinations of the endometrium and surgical samples. Having stated the protocol for the study, they commented on the cytological and histological results. Normal results represented thirty two per cent of the total cytological investigations, benign cytological investigations. Benign cytological abnormalities (fifty two per cent) correspond
to endometritis, benign and atypical hyperplasia and metaplasia. Pseudo-negative results are divided according to their histology. Diagnosis of malignancy represented six per cent of cytological examinations and ten per cent of histological results of which twenty were adenocarcinomas. Intra-uterine lavages done with the Gravlee jet yielded 92.5% of exact cytological diagnosis. This study showed the value of histological and cytological correlations in the benign and malignant pathology of the female upper genital tract.

Vuopala (1977) has reported the largest cancer series, found positive correlation in only fifty four of sixty five cases of eighty three per cent of carcinoma, all the false negative results were in women who had dilatation and curettage less than six weeks prior to the aspiration.

Dilatation and curettage was found by Vuopala (1977) to be the most reliable technique for diagnosis of intra-uterine abnormalities. It was the standard technique by which most other techniques were compared. Unfortunately the false negative rate could be documented only by removal of the uterus. In eighty three cases diagnosed by dilatation and curettage as endometrial carcinoma Vuopala repeated the procedure three to six weeks later and found no evidence of carcinoma in eight cases. The diagnosis was confirmed by other procedures including four cases by hysterectomy, three cases by vabra aspiration and one by jet wash.
In addition, there were many well documented cases of endometrial carcinoma not detected by dilatation and curettage. Since dilatation and curettage was stated by him to be a blind procedure, large areas of endometrial cavity could be missed by even the most experienced operator.

The percentage of endometrial carcinoma detected by cytological examination was explained by the coexisting bleeding, the effect of inflammation or necrosis, the high degree of differentiation, inadequate samples or inexperience and carelessness on the part of the examiner. In the course of the research, malignant cells were detected in seventy five per cent of initial stage zero cases while only forty per cent of cases at stage two showed malignant cells. This might be attributed to the coexisting bleeding, necrosis or inflammation which were certainly responsible for the increased percentage of adequate samples from zero to twenty three percent and twenty percent. For this reason, cytological examination must be applied as a routine examination for detecting pre-clinical endometrial cancer. In cases where there was a clinical suspicion of endometrial cancer, curettage would yield more reliable results (Eustratiades, 1977).

The jet wash technique was an efficient method for diagnosing endometrial carcinoma. Among seven hundred and fifty women studied by Schneider (1978) fifty endometrial carcinomas were detected, all of which were diagnosed by the
jet wash method. False positive findings did not exist in this series. Of the pre-existing stages of endometrial carcinoma, such as adenomatous hyperplasia and adenocarcinoma in situ scarcely fifty per cent of all cases were diagnosed. The jet wash method was also suited for out patient clinics. Thus patients at risk for endocarcinoma can be screened once annually in out patient clinics in addition to the usual prophylactic cancer examinations. All risk patients consist of patients suffering from bleeding anomalies, patients above forty years of age, patients free from any symptoms but suffering from obesity, hypertension and diabetes mellitus, patients with an increased narcosis risk, patients of the perimenopause, prior to oestrogen treatment and cancer follow up patients suffering from primarily radiated endometrium carcinomas. The direct smears and the centrifuge preparations could be diagnosed on the day of examination.

An aspiration curette for sucking endometrium from the uterine cavity for diagnostic purposes was also described. By means of curette in hundred cases of various gynaecological diagnosis aspirations from the uterine cavity were performed. The tissue was examined histologically and compared with that gained by traditional curettage. It was found that by means of suction curettage an exact histological diagnosis was possible. The one way curette offered several advantages, especially an intervention without anaesthesia and under ambulant conditions (Warm, 1978).
Estimations of Gravlee's jet washing method for the detection of endometrial carcinoma had been reported in the range of forty three to hundred per cent diagnostic accuracy. It was necessary to establish the proper evaluation of this method for the detection of endometrial carcinoma and its pre-cancerous states because the technique was simple, inexpensive, virtually painless and free of complications. In one hundred and eighteen out patients with gynaecological symptoms such as pre, peri and post-menopausal discharge, endometrial jet washing was performed with the Gravlee jet wash without anaesthesia or analgesia. Each specimen was diagnosed cytologically and histologically. Endometrial adenocarcinoma was detected in seven patients and the jet washing specimens were positive in all these seven cases (hundred per cent accuracy). Subsequent hysteroscopy followed by complete curettage of the uterine cavity and each clinical course revealed that no endometrial cancers were overlooked. Diagnostic efficacy of the Gravlee jet washer as a screening method to detect pre-cancerous lesions such as atypical hyperplasia, adenomatous hyperplasia and cystic hyperplasia were respectively seventy five per cent, fifty per cent, ten per cent so far as fifty patients were concerned who took hysteroscopic and complete curettage examination following the jet washing. The endometrial jet washing technique of Gravlee had provided to be a satisfactory method of screening for endometrial carcinoma and its pre-cancerous lesions (Morimoto, 1978).
Chiasson (1978) had presented a review of patients in whom suction and curettage of the endometrium was performed as an office procedure. A total of nine hundred and seventy eight curettages were performed on nine hundred and forty three patients. In fourteen patients the procedure was not completed primarily because of marked cervical stenosis. Fifteen cases of adenocarcinoma of the endometrium and twenty eight cases of adenomatous hyperplasia and atypical adenomatous hyperplasia of the endometrium were diagnosed. The suction curettage was demonstrated to be a simple, safe, efficient and cost saving alternative to a hospital dilatation and curettage.

The pistolet aspiration and Gravlee jet wash technique were used to examine one hundred and twelve patients at random and the efficacy of each technique compared. The pistolet aspiration technique was more often applicable and had provided sufficient material for cytologic and histologic evaluation. The histologic diagnosis was compared with the histologic diagnosis of the uteri after hysterectomy in all cases.

The worth of the intra-cavitary washing method indicated by various workers for early diagnosis of adenocarcinoma in various pathologies of the endometrial mucosa had been examined by Gambotto (1978). Twenty nine patients with various endometrial pathologies were considered and the findings of cytological and histological
examinations on the matter obtained from the washing fluid were compared with those of the histological examination of the endometrium obtained by curetting. The value of the method was confirmed when the washing matter was examined histologically.

Endometrial aspiration material obtained with the Isaacs cell samples from two hundred and twenty patients was studied and correlated with tissue biopsy from one hundred and seventy two of these patients. Out of fifty two endometrial carcinomas there were two false negative readings. In addition five cases thought to be malignant by cytologic criteria were not confirmed by histology. Only nine cases of unsatisfactory cellular samples were obtained as compared to thirteen cases of insufficient material by dilatation and curettage (An Forsaker, 1979).

Haack (1979) did diagnostic out patient Vabra curettage without anaesthesia. The diagnostic certainty was just as good as with the conventional curettage under anaesthesia with regard to the diagnosis of the endometrium. Separate cervix curettage and biopsy was performed for the diagnosis of diseases of the cervix and portio. The therapeutic effect of vabra curettage appeared to be just as good as conventional curettage, complications were very rare.
Uterine aspiration specimens from one hundred and seventy two females were examined cytologically by Nikitina (1979). Cancer in eighty nine, non cancer process in seventy one and in twelve cases aspiration specimens were obtained in a reproductive period in proliferative and secretory phases of the menstrual cycle. It was shown that in a group of histologically verified observations in 45.8%, a gynaecologist failed to recognize the true endometrial effect. Some cytological criteria elaborated were suggested, their combination helped to precisely diagnose cancer cytologically in 93.2% while various forms of hyperplasia in 89.3%.

The efficacy of the Mimarck endometrial cell sampler in the cytological assessment of endometrium was evaluated by Swinger (1979) in one hundred and one patients with post menopausal bleeding. The apparatus was successful in diagnosing all but one of the endometrial carcinomas in the series. Reports of its accuracy in diagnosing endometrial hyperplasia and other endometrial pathology could be substantiated.

In the diagnosis of adenocarcinoma if one combined Gravlee jet washing histology and cytology however twenty one out of twenty three cases were diagnosed instead of sixteen cases by histology alone, increasing the diagnostic accuracy rate to ninety one per cent instead of seventy per cent (Richart, 1979). This meant that the
cytology was crucial and should be done by individuals with special interest and expertise in endometrial cytology. This method was valid for screening asymptomatic patients for endometrial adenocarcinoma. Lesions not routinely diagnosed successfully by Gravlee. Atrophic endometritis (3%), chronic endometritis (27%) and endometrium showing exogenous drug effect (13%) were not diagnosed by Gravlee jet washing technique. Endometrial polyps were also not diagnosed by this technique.

Bibbo (1979) performed a study with the purpose to assess the accuracy of three techniques in the detection of endometrial cancer and its precursors, after a preparatory stage in which the clinicians involved had the opportunity to master the techniques. Endometrial aspiration, (Vakutage) endocervical aspirations and vaginal ectocervical and endocervical smears were collected. The results of the three techniques were correlated with available dilatation and curettage or hysterectomy specimens. The detection rate, combining cell and tissue diagnosis for thirty three adenocarcinomas and one carcinosarcoma by vacuum aspiration was hundred per cent. In the five cases of atypical hyperplasia the detection rate was hundred per cent by vacuum aspiration. While the vaginal ectocervical and endocervical aspirates were diagnostic in sixty seven per cent of cases each. In the five cases of atypical hyperplasia the detection rate was hundred per cent by the vacuum aspiration and twenty per cent by
the vaginal ectocervical smears and endocervical aspirate. Thirty cases of adenomatous hyperplasias were detected by the vacuum aspiration technique but only six per cent by the vaginal ectocervical and endocervical aspirate. Thirteen cases were detected by the vacuum aspiration but none were picked up by the vaginal ectocervical or endocervical aspirate. Endometrial polyps were detected exclusively by the tissue sample of the vacuum aspiration in fifteen cases. In the preparatory stage the diagnostic accuracy of the three sampling techniques was lower as expected. The combination of either vaginal ectocervical smears or endocervical aspirate with the vacuum aspiration did not increase the detection of endometrial lesions significantly. Therefore, the vacuum aspiration technique seemed to be more reliable than the vaginal ectocervical smears and endocervical aspirate in the detection of endometrial adenocarcinoma and its precursors and was considered to be a useful outpatient tool.

A clear cell adenocarcinoma of endometrium was detected by cytology alone by Wolinska (1979).

Kawada (1979) stated that endometrial carcinoma had been considered to be an easily curable disease which was true only if it was localized early. Therefore attempts had been made to identify women who were at risk for developing endometrial carcinoma, asymptomatic women with early disease and women with precursors of the disease.
Since certain hyperplastic changes were considered precursors of endometrial carcinoma, early detection and management of these lesions was necessary to decrease the incidence of endometrial carcinoma.

The Isaacs cell sampler was tested in one hundred and fifty women referred for curettage (Segadal, 1980). The results of cytologic testing of material obtained with the sampler were compared with histologic findings from curettage performed immediately afterwards, satisfactory aspirates for cytological diagnosis were obtained in one hundred and forty one patients and one satisfactory material for histological diagnosis in one hundred and twenty four. In the one hundred and two post menopausal patients the cytological method yielded ninety four satisfactory specimens, while curettage yielded only seventy six. All the seventeen carcinomas were diagnosed cytologically. Out of the twelve cases of premalignant change, nine were diagnosed cytologically, two cytologically diagnosed premalignant cases did not yield satisfactory material for curettage. Aspiration of endometrial cavity was a simple and reliable way of diagnosing malignancies. Further investigation was needed to define cytological criteria for diagnosing premalignant cases but as material was well preserved accuracy should improve with increasing experience.

Sagar (1981) studied one hundred and fifteen patients in the perimenopausal age attending the gynaecology
out patient department were studied. Detailed history, general, physical and local examination was made. Uterine aspirate was taken in out patient department. In ninety five of these cases, dilatation and curettage or hysterectomy was done subsequently and the endometrial findings compared to those obtained from uterine aspirate. Patients studied were between the age of forty and seventy years. Maximum number of them were in the age group of forty to forty five years. Most of the patients in the study group were multiparous. In three nulliparous and four uniparous patients, the cannula could be manipulated into the uterine cavity without much difficulty.

Forty three patients were post menopausal and out of them twenty two did not have any menstrual or bleeding disorders. They attended the hospital for prolapse uterus (14 cases) or lump (two cases) or pain in abdomen (six cases). Aspiration was done to see the adequacy of material for diagnosis of post menopausal endometrium. Twenty one patients of postmenopausal group came with bleeding.

Seventy two patients were pre menopausal and attended the out patient department for abnormal uterine bleeding. In these cases aspirate was taken in the out patient department and patient was admitted for dilatation and curettage or hysterectomy.
Adenocarcinoma of the uterus was diagnosed in one case of continuous post menopausal bleeding. Endometrial hyperplasia was seen in one case. In thirty two cases the endometrium was in non-secretory phase. In nine cases, no endometrial cells were seen in the aspirate and in three cases no endometrium in dilatation and curettage. In two patients, one of whom had hysterectomy later, endometrium was in non-secretory phase. In rest of the four cases findings could not be compared as the patients refused dilatation and curettage or it was not indicated.

In premenopausal group, seven cases were diagnosed hyperplasia by uterine aspiration, six of these dilatation and curettage specimens also showed hyperplasia while in one it showed non-secretory endometrium instead of hyperplasia.

Adenomatous hyperplasia was missed in one case of uterine aspirate which was diagnosed later by dilatation and curettage. Cystic dilatation of glands and chronic endometritis were the histopathological findings of dilatation and curettage material in other two cases reported as non-secretory endometrium in uterine aspirate. None of the patients in the pre-menopausal age group had carcinoma and this finding was substantiated by a subsequent dilatation and curettage.
Out of the three cases with inadequate material on uterine aspirate, two showed non-secretory endometrium and one atrophic endometrium on dilatation and curettage.

Except in these six cases the results of uterine aspiration were same as those of dilatation and curettage or hysterectomy.

In this series a diagnostic accuracy of ninety three per cent was obtained, hyperplasia of endometrium being diagnosed in eight cases.

Ambiya (1981) made a study of fifty cases of endometrial aspiration. There were forty three cases with hypermenorrhoea, twenty two of them showed stromal elements and ten showed broken glandular elements on endometrial aspiration. No material could be got in five cases. In one case of suspected adenocarcinoma adenocarcinomatous cells could be got on endometrial aspiration which was proved on biopsy.

Syncitiotrophoblastic cells were seen in both aspirate and histopathology in a case of vesicular mole with normal menstruation three months after evacuation of the mole. In eleven cases broken endometrial glands were seen of which five had glandular hyperplasia on histopathology as well as aspiration cytology. Out of twenty six cases in which stromal cells, atypical stroma and stromal hyperplasia was seen in fourteen in both endometrial
aspiration cytology and histopathology. In one case of hypermenorrhoea, adenocarcinoma was suspected from aspiration cytology and was later proved by biopsy.

In this small series of Ambiya (1981) one case of endometrial carcinoma was detected. Samples in forty five cases were got. In one case of hypermenorrhoea, adenocarcinoma was suspected from aspiration cytology and it was later proved by biopsy. Ninety per cent cases had either hypermenorrhoea or post-menopausal bleeding. Aspiration cytology and histopathology correlation was possible in most of the cases.

A five year study by Jacqueline et al was done in the year 1982. One thousand two hundred and fifteen cases were studied by Gravlee type device. Use of intrauterine washing cytology detected sixty six malignancies and out of which fifty nine (89.4%) were histologically confirmed. Histology confirmed 88.5% of the cytologically diagnosed adenocarcinomas. Washing cytology detected two confirmed tubal adenocarcinomas that had not been detected by curettage.

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