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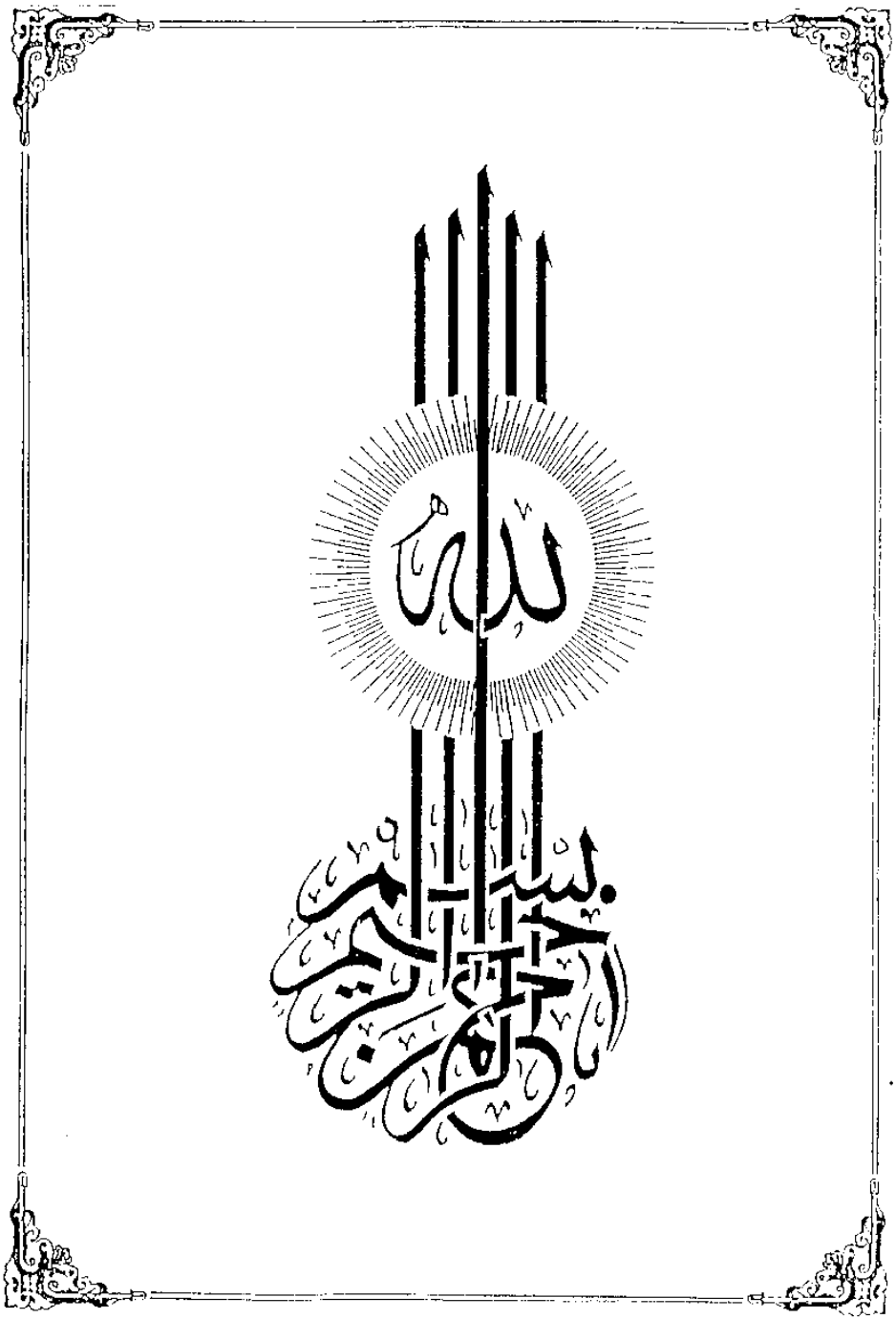
AIM OF WORK

This thesis is a presentation for the study of the diagnostic value of fine needle aspiration cycology in case of diff-rent breast lesions.



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INTRODUCTION

Breast cancer continues to represent one of the most worrying conditions encountered in clinical practice and remains one of the few common cancers for which no major advance in prevention and treatment seems in sight.

Smith 1959, Glassman 1961, Berg 1962, Zajieck 1970, and Schourl 1974, stated that, aspiration cytology of the breast had been only slowly and grudgingly accepted, despite its ease of use, the clinical and experimental proof of its safety and its impressing correlation with histological findings.

Godwin 1956, said that cells can be obtained from deep inaccessible organs by needle puncture and aspiration. The cells are characteristically alive at the time of fixation and unlike the naturally exfoliated cells they don't show the changes of physiologic aging and death.

Johnston 1954, Good 1955, Webb 1970, Hebert 1972 and Barnes 1975, stated that, controversy exists as to its proper place in diagnosis and treatment even among those who used the technique. Whereas in some institutions aspirates of breast masses are routinely used in

lieu of excisional biopsy, in others aspirates were used only for evacuations of cysts.

Zajieck 1974, suggested that in case of fluid aspirates the presence of cyst, the residual mass after espiration can be palpated and second aspiration should be done.

REVIEW

The diagnosis of mammary lesions by aspiration biopsy in selected patients has been practiced in the early 1930 by Martin and Ellis.

Martin 1930 described the technique of aspiration biopsy by the use of 18-gauge needle. Local anaesthesia and incision of the skin was necessary.

The specimen, thus, obtained consisted of fragments of tissue which was processed for histologic sections. But, this method did not receive much attention, since the progress of surgery and pathology were taking more interest, this made the need for the development of cytological methods less important. That was why, and despite its ease of use, fine needle aspiration biorpsy of breast lesions had been slowly accepted.

Stewert, F.W., 1933, stated that in some instutious, aspiration biopsy was routinely used.

Takeda, 1969, Takeda et al. 1970, stated that fine needle aspiration biopsy of breast lesions had convinced many authors as a valuable and reliable method for preoperative diagnosis of mammary lesions.

Berg 1961, Zajicek 1965, Takeda, 1969, Steveric 1973 and Tohma 1973, said that, the aspirated material from human epithelial lesions has been used by many workers in the field of clinical research

Vilaplana and Ayala 1975 reported a diagnostic accuracy of breast lesions by aspiration biopsy cytology method. Their series of cases included 660 patients. Cytologic results were histologically confirmed. False negative results were made in 2.6% of cases while false positive reports constituted 4.1% of cases.

Godwin 1955, Hennig 1975, Kline 1976, Schondrof 1978, stated that, breast aspiration is used in a variety of ways to augment other preoperative diagnostic methods and in situations where excisional biopsy is contraindicated.

Strawbridge 1981, said that confirmation of clinical or other impressions can be sure by cytologic findings. Thus some lesions which clinically appeared to be malignant proved to be benign and vice versa.

In case of benign lesions, Berg 1961 observed that smeared aspirates from fibroadenomas, especially in

young patients, in many cases contained atypical cells.

Linsk 1972, reviewed the smeared aspirates obtained from histologically confirmed cases of fibroadenoma and mammary dysplasia. Two hundreds and ten cases of each type were examined. Numerous epithelial clusters were detected in 68% of smears obtained from fibroadenomas, while stromal fragments were present in 34% of cases. By contrast the aspirates from benign mammary dysplasia generally were hypocellular and epithelial cells were numerous in only 1% of these smears and in 2% stromal fragments were present.

Zajieck 1976, was able to suggest fibroadenoma in about 70% of his series based upon the presence of abundant epithelial and stromal elements in the smears. However, it had been pointed out that a definite report of fibroadenoma required histologic confirmation, that is similar cytologic pattern was also observed in few cases of mammary dysplasia and had led to false diagnosis of fibroadenoma.

Scraff 1968, stated that, the term proliferating benign mammary dysplasia covers all lesions of the female breast

which was characterised by progressive benign proliferation of the mammary epithelim and cannot be classified as true neoplasms. These include the various forms of adenosis and both intraductal and intracystic benign epithelial proliferation of diverse cell differentiation, processes which often coexist.

Bohing 1964, Kruchemcyer 1969, sachs 1971, Prechtel 1972, said that, from the clinical point of view, proliferating mammary dysplasia was of special interest because of its recognized risk of malignant degeneration.

McDivit 1968, Ziner 1972, stated that, this connection was not yet definitely established. Neverthless the affected women must be kept under careful surveillance.

Bohing 1964, Hoffman 1970, Zippel 1973, said that, these lesions have almest always been fortintous findings at surgical biopsy, since inspection and palpation didnot yield typical findings.

Gershon-Cohen 1970, Hoffman 1973, stated that, even with the aid of mammography it was only occasionally, and especially in cases of fibrosing adenosis that an indication of the diagnosis can be obtained, consequently,

preoperative recognition of the disease had hithero been feasible only to a very limited extent.

Kreuzer 1978, said that, the accuracy of the cytological diagnosis from needle biopsy in proliferating mammary dysplasia was tested on the basis of 101 histologically proven cases of mild to sever degree. Experience at his clinic, however, had shown that many cases of proliferating mammary dysplasia can be predicted from the study of aspiration biopsy smears. The purpose of his study was to discribe the cytomorphologic appearance of smeares aspirated from proliferating mammary dysplasia and to test the reliability of the cytologic diagnosis which was possible in about half of the cases. This implies that the fine-needle biopsies gave new possibilities for detection and intensive surveillance without surgical biopsies of women with increased risk of developing breast cancer.

Studies of the individual cases showed that the more severe the proliferation of the mammary epithelium, the greater the accuracy of the cytolgic diagnosis. In intraduct and extraduct cystic proliferation the accuracy was higher than in pure adenosis.

Bloom 1957, said that, one may orgue that a needle aspiration biopsy or an imprint represents only a small sample of the cells present in the tumor and was insufficient as a basis for valid prognostic conclusions. However, even if variation were present in the histologic picture, the degree of pleomorphism of cells usually shows little variation in any one tumor.

Berg 1961, found that definite cytologic diagnosis of carcinoma was possible in 95% of cases, if aspiration biopsy of the breast was limited to lesions clinically judged to be malignant.

Zajicek 1965 made a study on 925 breast cases with aspiration biopsy cytology, no false positive cytologic diagnosis was made. In 79.5% of cases cytologic ideatification of cancer was possible, while false negative cytologic reports were made in 5.8% of cases. In 12.6% of cases, cytologic diagnosis only suspected cancer, without giving a definite diagnosis. In 40% of cases which cancer or suspicions of cancer was reported, there was no obvious clinical evidence advanced mammary cancer.

Peter 1972, studied two hundred and eight of specimens were obtained from biopsy of the breast. A diagnosis of carcinoma was made in 147 patients.

Winship 1969, Zajicek 1970, Peter 1972, emphysized that clinical selection of patients for aspiration biopsy was of considerable importance. Thus of the entire group of 208 patients, 86 per cent of 179, ultimatley proved to have carcinoma of the breast. Eighty-two per cent of the carcinoma were diagnosed by aspiration biopsy.

Staveric et al, 1973, investigated the diagnostic validity of aspiration biopsy cytology of breast tumors by correlating the cytologic and histologic findings obtained from 250 patients. Cytodiagnosis was found to be valuable method, and its introduction in the mass screening projects for detection of breast carcinoma was recommanded.

Chu et al, 1973, studied, the value and reliability of fine needle aspiration cytology utilizing Papanicolaou and May-Grunwald-Giemsa stains in diagnosis of cancer in palpale breast tumcrs had been assessed. The study was made on 48 histologically confirmed cases. A 70% diagnostic accuracy of cytodiagnosis was reported.

Kline and Neal 1976, used aspiration biopsy for the examination of breast nodules, they said that it was an accurate uncomplicated and rapid procedure. Of 1168 cases so examined, 127 were malignant with abnormal cells in 114, cases studied suggest that this procedure should be utilized in all palpable breast masses.

Uei et al 1980, studied a 190 histologically proven cases of Variaus breast lesions from 2,723 samples of nipple dischorge inorder to investigate the cytologic characteristics of breast carcinoma. The general criteria of malignancy as described for other organs applied also to the breast carcinoma cells. However, the breast carcinoma cells were generally smaller and less pleomorphic than those arising from other organs. In addition to the malignant features of individual tumor cells, the presence of a spherical cell cluster with a smooth rim was also an important finding suggestive of malignancy. The diagnostic rate of breast carcinoma increased significantly when the 190 cases were reexamined on the basis of the findings of that study.

Strawbridge 1981, studied 3,724 cytologic specimens mainly obtained by fine needle aspiration biopsy of breast lesions. He was more concerned with achieving a specific diagnosis in small or clinically equivocal lesions detected by the clinician or the patient, as it was manifestly impossible to perform an open biopsy upon all such lesions It was concluded that these benefits alone justify the use of the method and there was no compelling need to abandon the routine use of premastectomy frozen section.

P.A. Trott 1981, had made 4000 breast needle aspirates a year, of which 90% were from solid tumors and include about 400 carcinoma.

Mourice 1981, said that, needle aspiration biopsy had been used for breast masses as a diagnostic aid for the last 10 years. The procedure was a reliable indicator of cancer when positive smears were obtained also in case where a defined mass was aspirated the result will be diagnostic.