ASPIRATION CYTOLOGY OF BREAST LESIONS

Pages with reference to book, From 264 To 265

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Abstract

Aspiration biopsy was performed in 52 patients with palpable breast masses to evaluate the technique in diagnosis of breast lesions. The procedure was found to be reliable, simple, quick and acceptable. It is a good adjunct to frozen section where this facility is available. In places where his-topathology services are not readily available, aspiration biopsy is a useful technique for confirming clinical impression prior to surgery (JPMA 30:264, 1980).

Introduction

Although cytologic examination of aspiration of fluid from body cavities had been sporadically attempted as long as syringe and hollow needles have been available, extensive use of aspiration biopsy as a routine diagnostic procedure was initiated by Martin and Ellis in 1926 (Martin and Ellis, 1930) at the Memorial Hospital, New York. The procedure did not gain wide acceptance in the United States and remained limited to few centres (Kline and Neal, 1978). With the popularization of cytological diagnosis in the early 1950s, there has been a renewed interest in aspiration biopsy and the procedure became very popular in the Scandinavian countries (Franzen and Zajicek, 1968; Esposti et al., 1968; Zajicek et al., 1970). In many other centres in Europe (Zajdela et al., 1975; Furnival et al., 1975; Joffe et al., 1979), and Canada (Deschenes et al., 1978), the procedure is a diagnostic method in all breast tumours.

Aspiration biopsy of breast is indicated in all cases of palpable breast tumours. Even nonpalpable breast tumours can be aspirated under radiological guidance (Bolmgren et al., 1977).

Material and Methods

In a period of six months commencing from September, 1979, fifty-two patients with a clinically palpable breast lump were subjected to aspiration biopsy prior to surgery. Cases were collected from three hospitals irrespective of age, sex and disease. The equipment used was a 20c.c. Luer-Lok Syringe and a 19-gauge needle. The tumour was fixed in one hand and a sterilized needle attached to a 20c.c. syringe was introduced into the lump. Local anaesthesia was needed in some cases. Once the needle reached the tumour the plunger of the syringe was withdrawn as far as possible to create a vacuum in the system. Then, the plunger was released slowly to its previous position. The needie was advanced or directed to another position in the tumour and the procedure repeated. The pressure was released slowly and the needle withdrawn from the lump. The syringe was filled with air and the drop of fluid in the needie expressed gently on a clean glass slide. A thin film was made and fixed immediately while still wet in 95% ethyl alcohol for about 30 minutes. The smears were stained by Papanicolaou's method and a cytologic diagnosis was made and compared with the histologic diagnosis.

Results and Observations

Table I: Cytologic Findings in All Cases

Cytologic Findings	*Number*	*Percent*
Malignant Cells	20	38.5
Benign Cells	24	46.2
Suspicious Cells	2	3.8
Unsatisfactory	6	11.5
Total:	52	100

Table-I shows that aspiration biopsy was successful in 46(89.5%) cases while no cellular material was obtained in 6(11.5%) cases. A correct diagnosis was made in 44(84.6%) cases while in two cases cells were seen but the diagnosis was inconclusive. No false diagnosis was made.

Table II: Cytologic Findings in 23 Histologically Verified Malignant Tumours

Cytologic Findings	*Number*	*Percent*
Malignant Cells	20	87.0
Benign Cells	—	—
Suspicious Cells	1	4.3
Unsatisfactory	2	8.7
Total:	23	100

Table-II shows the accuracy of cytologic diagnosis in 23 histologically verified malignant lesions of breast. In 20(87%) cases a correct diagnosis of carcinoma was made on cytology. In 1(4 3%) case the smear showed atypical epithelial cells but was rich in inflammatory exudate so a conclusive diagnosis was not made. In 2(8.7%) cases aspiration did not yield enough epithelial cells for diagnosis. Patients with proven diagnosis of carcinoma were followed for a period of 3-8 months. No complication which could be attributed to aspiration biopsy was found.

Table III: Cytologic Findings in 29 Histologically Verified Benign Tumours

Cytologic Findings	*Number*	*Percent*
Malignant Cells	—	—
Benign Cells	24	82.8
Suspicious Cells	1	3.4
Unsatisfactory	4	13.8
Total:	29	100

Table-III shows the cytologic findings in 29 histologically verified benign tumours. Benign cells were seen in 24(82. 8%) cases. In one (3.4%) case a mitotic figure was seen and a suspicion of carcinoma was raised. In 4(13.8%) aspiration yielded either a cellular cystic fluid or it was unsuccessful.

Discussion

The accuracy of aspiration biopsy of breast lesions in this study is comparable to many published results (Deschenes et al., 1978; Esposti et al., 1968; Hajdu and Melamed, 1973; Koiv-uniemi, 1976; Kreuzer and Boquo, 1976; Zajdela et al., 1975). The technique was found to be simple, quick and acceptable. No complications were encountered as reported by others (Schondorf, 1978).
A major objection to the use of this technique was the possibility of tumour spreading locally or distally. Local extension of tumour cells along the needle tract has been investigated thoroughly by Engzel et al (1971), Rosemond et al (1974), Franzen and Zajicek (1968), Kline and Neal (1978) and no evidence of local spread of tumour cells was found. Ferrucci et al (1979) reported the first occurrance of needle tract implantation in a case of carcinoma of pancreas aspirated twice with 3 passes each time. The question of disseminating tumour Cells through blood and lymph vessels has also been discussed by many authors (Kline and Neal, 1978; Kern, 1979; Zajdela et al., 1975; Zajicek et al., 1970). Berg and Robbins (1962) compared the 15-year survival rates of 379 patients with breast carcinoma diagnosed by aspiration biopsy with the same rate of 370 patients diagnosed by other methods. They concluded that the only difference in prognosis elicited by various methods favoured rather than discouraged aspiration biopsy.

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