

## FINE NEEDLE ASPIRATION BIOPSY IN PELVIC TUMOURS

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Pelvic tumours, especially the ovarian tumours are difficult to critically assess on pelvic examination. Use of aspiration needle biopsy in the diagnosis of tumours is a well known procedure. Dehlgren, *et al* (1968) tested the use of aspiration biopsy in cytological diagnosis of ovarian cancer. They found the method to be very simple and very accurate.

Angstrom (1974) used the method of needle biopsy in the diagnosis and classification of ovarian tumours. He has concluded in favour of needle biopsy.

Fine needle aspiration biopsy is a method of choice, where operative treatment is contraindicated as in severely ill patients with advanced malignancy and when the problem is to exclude the remote possibility of an inflammatory lesion.

The only hazards of diagnosis of aspiration cytology are due to scanty material and due to the lack of definite cell arrangement which may prevent proper classification of the lesion. But it definitely helps in knowing the nature of the lesion which is a great help in ovarian tumours.

The value of cytological examination of aspirated material from various organs e.g. breast, thyroid, lymph nodes, bones etc. has been documented amply. But its

value in pelvic tumours has not received wide recognition. The present study is being undertaken to establish the role of fine needle aspiration biopsy as an early diagnostic procedure in pelvic tumours.

### *Material and Methods*

Twenty-five cases of pelvic tumours clinically diagnosed as ovarian tumours were taken from the Obstetrics and Gynaecology Out-patient/In-patient Department, S.G.T.B. Hospital, Amritsar. After clinical examination and preliminary investigations, they were subjected to fine needle aspiration biopsy. Two routes were adopted—transabdominal and transvaginal.

It consists of inserting a fine needle into a tumour, manipulating the needle so as to loosen tissue and then withdrawing the loosened material by syringe suction.

Serup (1979) found this technique quite safe and reliable.

Sufficient material for cytological examination was obtained in 84% in first attempt and further in 16% in the second attempt.

The contents of the needle were carefully expressed on clean glass slides and smears of adequate density were prepared. If the aspiration was of cystic fluid, it was centrifuged at 2,000 r.p.m. for 15 minutes and the smears prepared from the sediment.

Smears were fixed with methanol for 10

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minutes and were stained with Giemsa stain and haematoxylin and eosin stain and mounted in D.P.X.

#### Observations

The results of cytological examination were followed by laparotomy and verified by histopathological studies.

The youngest patient in this series was

of 15 years and the oldest was of 70 years of age. Out of 25 patients, 20 were in reproductive age group and 5 in menopause age group.

Cytological study of the smears showed 88% neoplastic and 12% non-neoplastic lesions. Out of neoplastic group, 68% were benign and 20% were malignant.

TABLE I  
Type of Lesions on Cytology

Type of tumour	No. of cases	Percentage out of 25 cases
<i>Benign:</i>		
Benign cystic teratoma	3	12%
Pseudomucinous cyst adenoma	4	16% (68%)
Benign tumours	10	40%
<i>Malignant:</i>		
Papillary carcinoma	1	4%
Granulosa cell tumour	2	8% (20%)
Choriocarcinoma	1	4%
Highly malignant lesion	1	4%
<i>Non-neoplastic:</i>		
Inflammatory lesion	2	8% (12%)
No cells	1	4%

TABLE II  
Correlation of Cytodiagnosis With Histopathological Diagnosis

Fine needle aspiration cytology	Histopathology after laparotomy	No. of cases
Papillary carcinoma	Papillary carcinoma	1
Highly malignant lesion	Papillary carcinoma	1
Granulosa cell tumour	Granulosa cell tumour	1
Granulosa cell tumour	(H/P not done)	1
Choriocarcinoma	Choriocarcinoma	1
Benign lesion	Benign cystic teratoma	2
Benign cystic teratoma	Benign cystic teratoma	3
Mucinous cyst adenoma ovary	Mucinous cyst adenoma ovary	2
Mucinous cyst adenoma ovary	Benign cystic lesion ovary	2
Benign lesion	Benign cystic lesion ovary	3
Benign lesion	Benign haemorrhagic lesion	2
Benign lesion	Leiomyoma uterus	3
Inflammatory cells	Sertoli Leydig cell tumour with haemorrhagic necrosis and inflammatory exudates at some places	1
Inflammatory cells	Inflammatory mass with multiple follicular cysts	1
No cells obtained	Lutein cyst	1



### Discussion

Ovarian masses neoplastic or non-neoplastic produce little or no discomfort to the patient in the beginning. Non-neoplastic lesions may disappear with the passage of time, but the ovarian mass which appears non-neoplastic or benign on vaginum examination could very well be malignant, and if it is not diagnosed early nothing much can be done later on for the patient. If it is malignant, it requires prompt surgery and/or radiotherapy and/or chemotherapy without losing any precious time.

It was possible to demonstrate the nature of the tumour in 96% of cases on fine needle aspiration biopsy. It is a very encouraging result because the management of pelvic tumours is much influenced by the nature of the tumour. In patients with malignant tumours, classification was possible in 80% cases. In benign tumours, it was possible to classify seromucinous cystadenoma and benign cystic teratoma i.e. in 39% cases. Inflammatory cells could be demonstrated in inflammatory lesions.

Dahlgren *et al* (1968), Angstrom, *et al* (1972), Dudkiewicz *et al* (1975), Gupta *et al* (1975) worked on aspiration biopsy in ovarian tumours and found the diagnosis consistent with histopathological examination in most of the cases.

The possibility of tumour spread along the needle tract has been mentioned by

Coley *et al* (1931). However, this has not been a clinically significant complication in the repeated experience of Gladstem and Grantham (1974), Berg and Robbins (1962) and Serup, J. (1979).

### Summary

Fine needle aspiration biopsy is a simple, rapid, safe, inexpensive and acceptable cytodiagnostic procedure which can be undertaken as an out-door procedure, without any elaborate equipment. It can be done several times and at multiple sites. High percentage of success depends upon the correct technique and snill of the cytologist. No significant complications were encountered.

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