



## CYTOLOGICAL EVALUATION OF OVARIAN MALIGNANCY

Dr Deepak Kumar

Associate Professor, department Of Pathology Jawaharlal Nehru Medical College, Bhagalpur, Bihar. drdeepakkumar6@gmail.com

**ABSTRACT** This study was conducted to evaluate the reliability of cytology regarding malignancy of ovaries **METHOD** -FNAC was done through trans abdominal as well as trans vaginal methods. In all cases sufficient material for cytology was obtained. **RESULT AND CONCLUSION**- In FNAC, of 50 cases, 42 cases of which were diagnosed as benign. In which 41 cases were confirmed by histopathology and 1 was reported as carcinoma of ovary. All eight cases were diagnosed as malignant on cytological ground which were confirmed by biopsy examination.

## KEYWORDS

FNAC, trans abdominal, transvaginal route

## \*Corresponding Author

## INTRODUCTION –

Ovarian tumors are 80% benign in nature and occur in young women. Malignant ovarian tumor accounts for 30% of all cancers in female and is fifth most common cause of death due to malignancy in women in US. It occurs in older age group this is due to late diagnosis. Ovarian Cancer is mostly asymptomatic in early stages.

The diagnosis of ovarian tumor includes pelvic examination, CT scan, MRI, USG, laparoscopy, laparotomy and tumor markers. But due to cost effective, exhaustive, traumatic or invasive no one investigations are satisfactory for early and definite diagnosis for the disease.

Cytology (FNAC) is a simple, safe and cost effective time effective procedure. It is an OPD process and takes very short time and gives a definite diagnosis. So early management of the patient is possible to have a good prognosis. Hence this study was undertaken to access the reliability of cytology in ovarian malignancy.

## MATERIAL AND METHOD

This study was conducted in the Department of Pathology JLNMC, Bhagalpur, Bihar in between November 19 to March 20. It includes 50 patients registered in Gynae OPD as ovarian tumor on the basis of pelvic examination and USG. After routine investigation FNAC of each patient was done in the Department of Pathology, JLNMC, Bhagalpur.

FNAC was done either by trans abdominal or by transvaginal route.

Skin over the site is thoroughly cleaned with spirit (in transabdominal route). No need of anaesthesia.

A 23 or 24 gauge needle attached to a 10 CC disposable plastic syringe is introduced into the lesion (mass through the abdominal wall or transvaginally) with a plunger in the resting stage. Then the plunger of the syringe is retracted maximally, thus creating a vacuum in the system. The needle is then moved back and forth in different direction under constant suction to detach the tissue fragments when the aspiration is complete the plunger is released to eliminate the vacuum in order to reach pressure equilibrium in the system. Only then the needle is withdrawn from the lesion. Thus avoiding aspiration of the material into the syringe.

The contents of the needle are carefully expelled on the glass slides. After that the syringe has been disconnected from the needle filled with air and reconnected the needle's content is then blown out on the slide by pushing down the plunger as the needle tip touches the glass.

If the specimen was a semisolid droplet it is gently squeezed with the other side by exerting slight pressure. If the aspirate is fluid it can be spread after centrifugation (2000 rpm for 15 minutes) then smear is immediately fixed in 95% ethanol, then stained with hematoxylin and eosin stain or May Grunwald Giemsa stain and examined under the microscope. The procedure was done successfully in all cases without any complications.

## OBSERVATION –

50 patients were evaluated with ovarian tumor. Age of the particular ranged between 15 to 55 years, 30% cases were in age group 21 to 25 years, 14% of having age group 50 to 56 years and 8% of having age group 46 to 50 years.

Table one: Age wise incident of cases

AGE GROUP (IN YEARS)	NUMBER OF CASES	PERCENTAGE
15 to 20	3	6
21 to 25	15	30
26 to 30	6	12
31 to 35	6	12
36 to 40	5	10
41 to 45	4	8
46 to 50	4	8
51 to 55	7	14

Table two: Approach of Fine Needle Aspiration

APPROACH	NUMBER OF CASES	PERCENTAGE
Transabdominal	42	84
Transvaginal	8	16

Table three: Correlation of cytology and biopsy

	CYTOLOGY	HISTOPATHOLOGY	
	NUMBER OF CASES	BENIGN	MALIGNANT
Benign	42	41	1
Malignant	08		8

Table four: Classification of ovarian lesion

Name Of Tumor	NUMBER OF CASES	Percentage
Simple Serous Cyst	17	34
Mucinous Cystadenoma	10	20
Dermoid Cyst	4	8
Hemorrhagic Luteal Cyst	3	6
Tuberculosis	3	6
Follicular Cyst	5	10
Dysgerminoma	1	2
Brenner Tumour	1	2
Endometrial Sinus Tumour	1	2
Choriocarcinoma	1	2
Mucinous Cystadenocarcinoma	1	2
Serous Cystadenocarcinoma	1	2
Teratoma (malignant)	1	2
Fibroma	1	2

The cytology showed malignant cells in 8 cases which is confirmed by histopathology, of the 42 were diagnosed as benign by FNAC, in which 41 were confirmed as benign by histopathology. One was labelled as benign on cytology but turned malignant (adenocarcinoma) of ovary.

on histopathology.

Histopathology revealed malignancy in eight cases. Dysgerminoma, Brenner Tumour, Endodermal Sinus Tumour, Choriocarcinoma, Mucinous Cystadenocarcinoma, Serous Cystadenocarcinoma. Teratocarcinoma and Fibroma.

Of benign cases 17 with simple serous cyst, 10 mucinous cystadenoma 4 were dermoid cyst, 3 hemorrhagic luteal cyst.

#### DISCUSSION

The most common age group in my study was 21 to 25 in 30% and in age group 46 to 55 is 22%.

Both transvaginal and transabdominal route was easy to perform with adequate and sufficient material.

Diagnosis is confirmed by histopathology.

On cytological evaluation (FNAC) of 42 cases 41 were found benign which is confirmed by histopathology. So percentage of accuracy was 97.6 % one was malignant on histopathology. This study simulates with the study of Sevinetal (1979) who found the reliability of FNAC for differentiation between malignant and benign is 96.4 percent.

Eight cases of malignancy confirmed by biopsy we could diagnose seven by FNAC (88 percent). The reason of false negative may be due to inadequate aspiration or area of aspiration was negative for malignant cells.

The diagnostic accuracy of malignancy of ovarian tumour by FNAC was reported as 93.95% by Angstrom et al (1972), 96.4% by Moriarty et al (1986).

#### CONCLUSION

FNAC cytology is a safe, simple, cost-effective, easy OPD procedure to get diagnosis of ovarian malignancy. In a developing country like India this procedure may be used as mass screening. By FNAC we avoid unnecessary laparotomy of deep seated lesions prior to chemotherapy. FNAC may also be helpful to follow up patients of ovarian cancer who are on multiple chemotherapy.

Although the accuracy of FNAC depends upon the exact location of aspiration and knowledge of a cytologist.

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