

Evaluation of Diagnostic Importance of FNAC in Ovarian Mass in Chotanagpur Area – A Hospital Based Study

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Abstract: This study was done to know the various benign and malignant ovarian lesions in Patients presenting with ovarian mass in RIMS, Ranchi. Total 115 Ladies with clinical feature of ovarian mass coming to Gynecology OP D were included in the study. Staining of smear done by pap and H&E staining. 24 cases were non neoplastic ,45 cases benign neoplastic and 27 were found malignant. Benign tumor were common in early age group, where as malignant were more common in late age group. Our study recommend U&G guided fnacand pathologicalcorrelation with history for early initiation of treatment.

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I. Introduction

The incidence of ovarian cancer has been steadily increasing over the past ten years, now with an overall life time risk of 1.8% ^[1], out of total cancers ovarian cancers constitute 6% ^[2]. Ovarian cancer is third most common cancer in India, after breast and cervix cancer. ^[3] The history of ovarian malignancy shows it will take the life of women in reproductive age for several decades to come ^[4]. FNAC may prove valuable and acceptable in the diagnosis of ovarian tumors ^(5,6). FNAC is very challenging for diagnosis of ovarian neoplasm ^(7,8). Various non- neoplastic cyst, celomic epithelial neoplasm and germ cell neoplasm involve ovary ^[9]. Our study examined & detected the malignant changes at early stage so that patients may get cured by early treatment.

Material and Method Total 115 cases have been included in our study conducted in cytology section of department of pathology, RIMS Ranchi after approval from ethical review board. Patients age between 10-70 yrs, who came with clinical feature of ovarian mass were evaluated for usg examination after written consent. After confirmation of mass sonographically, Fnac was performed under guidance from suspected areas. The patients were prepared with antiseptic dressings. Aspirations was done from the appropriate site by commercially available 22G, 88mm long spinal needle attached to a 10ml disposable syringe. Several passes were made when the needle was visualized within the lesion. Poor patients tolerance also caused difficulty in some cases. Smear were fixed in methanol and stained with PAP and H&E stain. Smears were examined for types of cells arrangement, background material and for other cells present. Routine histology technique were followed for histopathology specimen and results were compared.

II. Result

		Cytological finding	Histological Finding
	1. Follicular cyst	14	13
	2. Corpus Luteum cyst	9	9
	3. Endometriosis	1	1
Bengin	1. Serous Cyst adenoma	21	15
	2. Mucinous	15	12
	3. Benign Cystic tertoma	5	4
	4. Thecoma/Fibroma	3	2
	5. . Brenner Tumor	1	—
Malignant	1. Serous Cystadenocarcinoma	17	9
	2. Mucinous	7	3
	3. Granulosa Cell tumor	2	1
	4. Metastasis	1	1

Out of 115 cases where u&g guided fnac was performed, Cytological diagnosis was done in 96 cases while 19 cases were inconclusive due to inadequate sampling. Out of 96 cases where cytological diagnosis were given 24 (20%) cases were non-neoplastic, 45 (46.87%) cases benign neoplastic and the rest 27 (28.12%) cases labelled as malignant. Out of 24 non- neoplastic lesion 14 were follicular cyst, 9 corpus luteal cyst and 1 endometriosis, Among 45 benign neoplastic tumors, 21 (46.66%) were serous cystadenoma. 15 (33.33%) were mucinous cystadenoma. Rest were 5 cases of benign cystic teratoma, 3 of thecoma-fibroma, 1 of Brenner tumor. Aspirate from serous cystadenoma were hypocellular with occasional epithelial cells. Smear from mucinous cystadenoma showed few columnar cells with mucinous background. Of the 27 malignant tumors serous cystadenocarcinoma accounted for 17 (63%) cases, mucinous cystadenocarcinoma for 7 (26%) cases. Granulosa cell tumors for 2 cases, metastatic tumour for 1 case. The cells of serous adenocarcinoma show tight clusters and discrete cells along with glands. Mucinous adenocarcinoma revealed three dimensional clusters of malignant cells in mucinous background. Granulosa cell tumour showed central globular pinkish material surrounded by small neoplastic cells with scanty cytoplasm and nuclear grooves.

Age Group

	10-40	40-70
Benign	92%	8%
Malignant	18%	82%

Histopathological diagnosis

FNAC diagnosis	Malignant	Benign
Malignant	14	13
Benign	33	12

III. Discussion

92% of benign tumour occurred in age group of 10-40Y while only 8% was in between age 40-70Y. Out of total Malignant tumour 82% was between 40-70y of age group while only 18% occurred in age group of 10-40y. Minimum age of presentation was 17 year with a diagnosis of serous cystadenoma. Minimum age for malignant tumor was 37 year with a diagnosis of serous cystadenocarcinoma. There are wide variety of primary ovarian tumour hence image guided cytology may not always accurately corroborate with histopathology⁽¹⁰⁾. Serous cystadenocarcinoma is first most common malignant ovarian tumour followed by mucinous adenocarcinoma consistent with our study.⁽¹¹⁾ Smear from serous cystadenoma showed occasional epithelial cells with round nuclei consistent with ramzy et al.⁽¹²⁾ Benign cystic teratoma cytopathology revealed anucleate squames with in a thick inflammatory cells, sebum background similar to study of orell et al⁽¹³⁾ Granulosa cell tumour showed central globular pinkish material surrounded by small neoplastic cells with nuclear grooves similar to Ehya et al⁽¹⁴⁾. Image guided fnac should be considered a first line investigation for ovarian mass.⁽¹⁵⁾

IV. Conclusion

FNAC remain one of the important diagnostic method for diagnosis of ovarian neoplasm. Ultrasound is also necessary for proper localization of lesion. Malignant changes can be detected in early stage and proper treatment can be initiated as soon as possible. There was difficulty during aspiration of some cases due to uncooperative patient solidified lesions and other factors. HPE is necessary for definite diagnosis of ovarian mass because FNAC becomes doubtful in some cases.

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