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To study incidence of ovarian neoplasm at tertiary care center, Jhalawar

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Abstract

Background: Ovary is an important organ as it is concerned with the production of progeny.They are paired pelvic organs located on the sides of the uterus close to lateral pelvic wall and the common site for occurrence of neoplasm in women.

Methods: The present retrospective study of histopathological evaluation of neoplasm of ovary in the Department of Pathology, Jhalawar Medical College , Jhalawar

Results: The surface epithelial tumors are the commonest tumors accounting for 63cases (72.72%) cases, germ cell tumors are 19 cases (20.45%) and sex cord stromal tumors formed 4 cases (4.54%) .

Conclusion: It is concluded from this study that on morphological grounds, tumors originating from surface epithelium are the most common variant. Therefore, suggested that efforts must be made to identify the risk factors for malignancy

Keywords: Ovary, Surface epithelial tumors, Germ cell, Stromal tumors.

Introduction

Ovary is an important organ as it is concerned with the production of progeny. They are paired pelvic organs located on the sides of the uterus close to lateral pelvic wall and the common site for occurrence of neoplasm in women.[1] Although no age group is free from these tumours, different tumours tend to involve different age groups preferentially. The complex anatomy of the ovary and its peculiar physiology with the constant cyclical changes from puberty to menopause give rise to number of cell types, each of which is capable of giving rise to tumours. Both primary and secondary tumours of the ovary are relatively frequent showing a variety of histopathological patterns. [2]The present retrospective study was planned from June 2017 to May 2019 to study incidence, age distribution and various histopathological pattern of ovarian neoplasms at tertiary care center, Jhalawar.

Materials & Methods

A retropective study will be carried out in the Department of Pathology, Jhalawar Medical College &

Hospital of 2 year duration from June 2017 to-may 2019.

Inclusion criteria: All the cases of ovary specimen which were operated and sent for histopathological examination during June 2017 to May 2019.

Exclusion criteria: The normal ovaries and the ovaries with non neoplastic diseases (follicular cyst, cystic follicles, surface inclusion cysts, hemorrhagic inclusion cysts, ectopic pregnancy and endometriosis, torsion ovary) will be excluded from the study.

Incomplete filled proforma are excluded from the study.

Methodology

After obtaining approval and clearance from the institutional ethical committee, only those patients meeting the inclusion and exclusion criteria were enrolled for the study. After enrollment the following parameters were considered and/or measured in all patients according to proforma.

Study Design: This study was retrospective study from June 2017 to May 2019.This study was carried out in Department of Pathology, Jhalawar Medical College, Jhalawar.

Routine staining procedures using alum Hematoxylins

1. Dewax sections, rehydrate through descending grades of alcohol to water.
2. Remove fixation pigments if necessary.
3. Stain in an alum hematoxylin of choice for a suitable time.
4. Wash well in running tap water until sections ‘blue’ for 5 minutes or less.
5. Differentiate in 1% acid alcohol (1% HCl in 70% alcohol) for 5–10 seconds.
6. Wash well in tap water until sections are again ‘blue’ (10–15 minutes).
7. Or blue by dipping in an alkaline solution followed by a 5 minute tap water wash.
8. Stain in 1% eosin Y for 10 minutes.
9. Wash in running tap water for 1–5 minutes.
10. Dehydrate through alcohols, clear, and mount.

Results

Nuclei blue/black

Cytoplasm varying shades of pink

Muscle fibers deep pink/red

Red blood cells orange/red

Fibrin deep pink

Results

The present retrospective study of histopathological evaluation of neoplasm of ovary in the Department of Pathology, Jhalawar Medical College , Jhalawar. During this two years period from June 2017 to May 2019, histopathologically about 5811 cases were studied. Out of these 88 cases were found as ovarian tumors of total ovarian specimens.

Table 1: Distribution of Ovarian Tumors

Type of tumors	No. of cases	Percentage
Benign tumor	72	81.81
Borderline tumor	5	5.68
Malignant tumor	11	12.50
Total	88	100
Chi Square	11.271	
p-value	<0.05(SIG)	

Out of 88 cases of ovarian. There are 72 (81.81%) cases of benign, 5(5.68%) cases of borderline and 11 (12.50%) cases of malignant tumors present.

Table 2: Distribution of Ovarian Tumors (Histologic types)

	Type of tumor	No. of cases	Percentage
1.	Surface epithelial tumors	64	72.72
2.	Sex-cord stromal tumors	4	4.54
3.	Germ cell tumors	18	20.45
4.	Metastatic tumor	2	2.27
	Total	88	100
	Chi Square	3.001	
	p-value	<0.05(SIG)	

The surface epithelial tumors are the commonest tumors accounting for 63cases (72.72%) cases, germ cell tumors are 19 cases (20.45%) and sex cord stromal tumors formed 4 cases (4.54%).

Table 3: Histologic types and percentage distribution of ovarian tumors.

	Type of ovarian tumor	No. of cases	Percentage	Overall
I.	Surface Epithelial tumors (64)			
A.	Serous tumors	36		40.90%
	Benign	30	34.09%	
	Borderline	2	2.27%	
	Malignant	4	4.54%	
B.	Mucinous tumors	27		30.68%
	Benign	23	26.13%	
	Borderline	3	3.40%	
	Malignant	1	1.13%	
C.	Endometroid tumor	1	1.13%	
II.	Sex-cord stromal tumor (4)			4.53%
	Granulosa cell tumor	3	3.40%	
	Fibroma	1	1.13%	
III.	Germ cell tumors (19)			21.58%
	Struma ovarii	1	1.13%	
	Mature cystic teratoma	17	19.31%	
IV.	Metastatic tumors (2)	2	2.27%	2.27%
	Total	88	100	100

The commonest epithelial tumors were serous 36 cases (40.90%) and mucinous 27 (30.68%) types. Mature cystic teratoma was the commonest germ cell tumors 17cases (19.31%). 3 case (3.40%) were adult granulosa cell tumor. 1 each case of ovarian fibroma and struma ovarii also found respectively

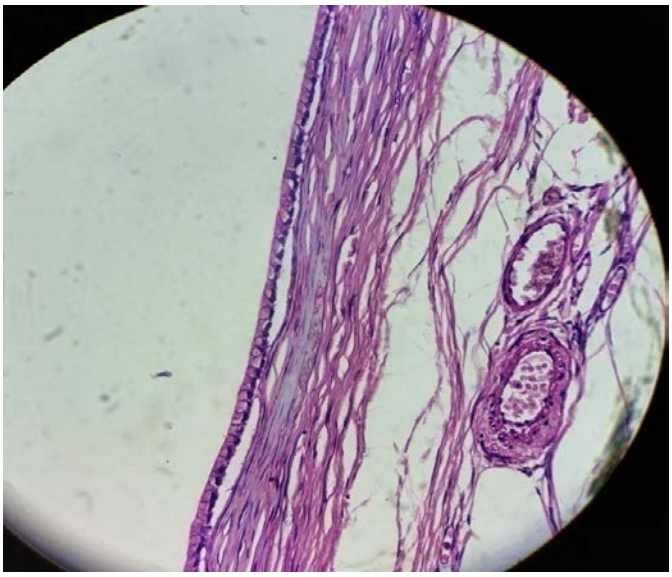

Figure 1: Benign serous cystadenoma shows flat cuboidal epithelial lining. (10x , H&E stain)

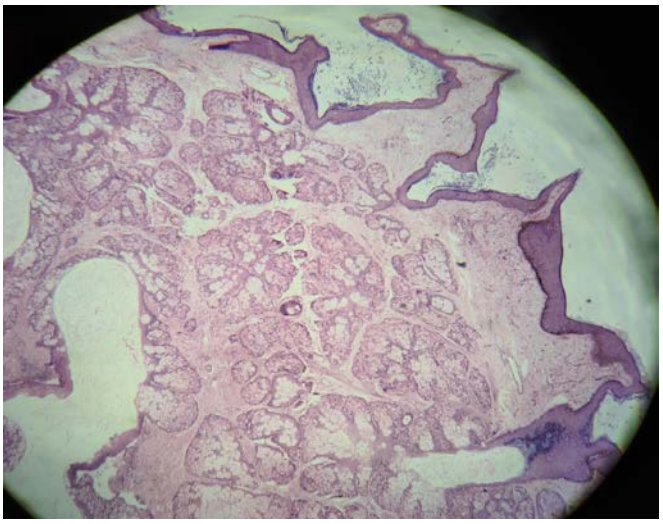

Figure 2 : Mature Cystic Teratoma showing mature squamous epithelium ,sebaceous gland and hair follicles.(10x ,H&E stain)

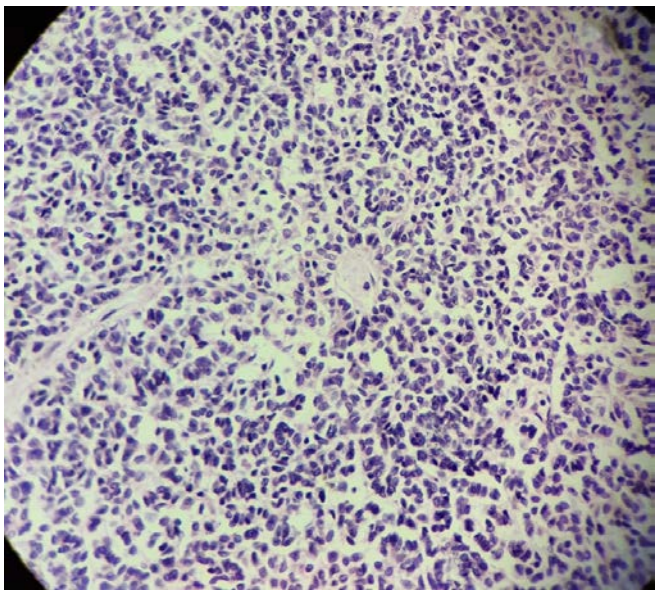

Figure 3: Adult granulosa cell tumor showing coffee bean nuclei and call exner body.

(40x , H&E stain)

Discussion

The surface epithelial tumors are the commonest tumors accounting for 63cases (72.72%) cases, germ cell tumors are 19 cases (20.45%) and sex cord stromal tumors formed 4 cases (4.54%) . The commonest epithelial tumors were serous 36 cases (40.90%) and mucinous 27 (30.68%) types. Mature cystic teratoma was the commonest germ cell tumors 17cases (19.31%). 3 case (3.40%) were adult granulosa cell tumor. 1 each case of ovarian fibroma and struma ovarii also found respectively

Similar observations were made by Swamy and Satyanarayan[3], Gupta et al.[4] and Pilli et al.[5] The most common epithelial tumors were serous cystadenoma followed by mucinous cystadenoma and the most common germ cell tumor was benign cystic teratoma (43 cases), similar results reported by Yasmin et al.[6] This incidence is lower than 21.8% and 13.04% reported by Kanthikar et al.[7] and Jha and Karki.[8]

Conclusion

It is concluded from this study that on morphological grounds, tumors originating from surface epithelium are the most common variant. Therefore, suggested that efforts must be made to identify the risk factors for malignancy

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