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A HISTOPATHOLOGICAL STUDY OF SURFACE EPITHELIAL TUMORS OF OVARY

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ABSTRACT

Introduction: Surface epithelial tumors are the most important group of neoplasm of the ovary. These tumors are classified according to the following parameters : cell type, pattern of growth, amount of fibrous stroma, atypia and invasiveness.[1] **Aim:** To obtain overall & age wise incidence & to get incidence ratio of surface epithelial tumors of benign versus malignant type and to study the various morphological aspects of surface epithelial tumors of ovary. **Method:** This was hospital based three year retrospective study of 90 clinically diagnosed cases of ovarian tumor. Specimens were received ,processed and stained by H & E stain to classify histopathological types of surface epithelial tumors of ovary. **Results:** A total 90 cases were studied out of them 40 were surface epithelial tumors. Among these 40 cases, 31 were serous, 07 were mucinous, 00 endometroid, 01 each of transitional cell and undifferentiated tumor. Among these 40 cases, 32 were benign. **Conclusion:** Histopathology plays an important role in making definite diagnosis of various epithelial tumors of ovary.

KEYWORDS surface epithelial tumors of ovary, histopathology

INTRODUCTION

The ovary is covered by a single, focally pseudostratified layer of modified peritoneal cells that coined from coelomic epithelium. The cells vary from flat to cuboidal to columnar lining. The surface cells are separated from the underlying stroma by a distinct basement membrane. Most of the surface epithelial tumors of ovary are derived ultimately from the ovarian surface epithelium,which develops from the coelomic epithelium (mesothelium) that covers the embryonic gonad. This epithelium is continuous with the nearby coelomic epithelium that penetrates the underlying mesenchyme to form the mullerian duct. This embryonic proximity is reflected in various directions of mullerian differentiation exhibited by the ovarian surface epithelium when it undergoes neoplasia, for example, toward fallopian tube epithelium in serous neoplasia, endometrial epithelium in endometrioid tumors and endocervical epithelium in at least some mucinous neoplasm[1,2].

AIMS AND OBJECTIVES

We aimed at describing histopathological profile of surface epithelial tumors of ovary.

Histopathological examination not only helps in confirmation of diagnosis but also helpful in exact typing of the disease.[8],[9]

MATERIAL AND METHODS

A retrospective three year hospital-based study was conducted in Histopathology Section, Pathology department, P.D.U Medical college and hospital, Rajkot, between January 2014 to December 2016.

Patients of all age groups are included in study.
Specimen were fixed in 10% formalin, following fixation of 12-24 hours and embedded in paraffin. All these biopsies were stained with haematoxylin & Eosin. Histopathological criteria used were cell type, pattern of growth, amount of fibrous stroma, atypia and invasiveness.

RESULTS:

Ovarian Tumours	Total No. of cases
Surface Epithelial Tumors	40(44.5 %)
Other Tumours	50(54.5%)
Total Cases	**90(100 %)**

Forty cases of surface epithelial tumors of ovary were diagnosed on histopathology included in this study.

TABLE 1 : INCIDENCE OF SURFACE EPITHELIAL TUMORS OF OVARY

Histological Types	No. of cases(%)
Serous tumours	77.5%
Mucinous tumours	17.5%
Endometrioid tumours	00
Transitional Cell tumours	2.5%
Mixed malignant tumour	2.5%
Total	**100%**

TABLE 2: DISTRIBUTION OF CASES ACCORDING TO THEIR HISTOPATHOLOGICAL TYPES.

TABLE 3 : DISTRIBUTION OF CASES ACCORDING TO THEIR HISTOPATHOLOGICAL CATEGORIES.

Histopathological Types	Benign	Borderline	Malignant
Serous tumuors	26	01	05
Mucinous tumours	06	01	00
Endometrial tumours	00	00	00
Transitional Cell tumours	00	00	01
Mixed malignant tumour	00	00	01
Total	**32**	**02**	**06**

TABLE 4 : DISTRIBUTION OF CASES ACCORDING TO THEIR LATERALITY

Types		Unilateral	Bilateral	Total
Serous Tumours	Benign	25	01	26
	Borderline	01	00	01
	Malignant	04	01	05
Mucinous tumours	Benign	04	01	05
	Borderline	01	00	01
	Malignant	00	00	00
Endometrioid tumours	Benign	00	00	00
	Borderline	00	00	00
	Malignant	00	00	00
Transitional cell tumours	Benign	00	00	00
	Borderline	00	00	00
	Malignant	01	00	01

Mixed malignant mullerian tumours		01	00	01

TABLE 5 : AGE WISE DISTRIBUTION

Types	Age Range (Years)	Median Age(years)	
Serour Tumours	Benign	13-70	41.5
	Borderline	50	50
	Malignant	35-60	47.5
Mucinous tumours	Benign	22-75	48.5
	Borderline	35	35
	Malignant	-	-
Endometrioid tumours	Benign	-	-
	Borderline	-	-
	Malignant	-	-
Transitional cell tumours	Benign	-	-
	Borderline	-	-
	Malignant	40	40
Mixed malignant mullerian tumours		56	56

TABLE 6 : PRESENTING SYMPTOMS & CLINICAL FINDINGS

Presenting Symptoms & Clinical Finding	No. of cases
Chronic abdominal pain	37
Abdominal enlargement	21
Leucorrhoea& Backache	13
Urinary symptoms	01
Loss of weight & appetite	04
Sterility	00
Ascites	01

DISCUSSION

In the present study, the incidence of surface epithelial tumors was 44.5%.The reported incidence n other studies ranged from 50-61.6% of all ovarian neoplasm. The present study showed 15% of surface epithelial tumors to be malignant. In some studies 90% of surface epithelial tumors were malignant. There was an increase in age incidence from benign to malignant. In present study, the proportion of benign tumors were highest at ages 21-50 years and is less common with below 20 years of age which is consistent with other study..In the present study , maximum incidence of malignant tumors was more in 50-60 years of age group. Bilateral ovarian involvement was more frequent in benign cases in the present study. Benign tumors were predominantly cystic while borderline & malignant tumors showed both solid & cystic component with haemorrhage & necrosis.

TABLE 7 : DISTRIBUTION OF OVARIAN TUMORS.

Tumours	Nakashima Et al[3]	Koonings Et al[4]	GG Swamy Et al[5]	Prabhakar & maingi Et al[6]	R Jha Et al[7]	Present Study
Surface Epithelial Tumours	50.3%	50.1%	61.6%	60.6%	52.2 %	44.5%
Others	49.7%	49.9%	38.4%	39.4%	47.8 %	55.5%

TABLE 8 : COMPARATIVE STUDY OF BENIGN SURFACE EPITHELIAL TUMORS IN DIFFERENT AGE GROUPS.

Age	No. of cases (%)in present study	No.of cases in R Jha et al[7]
UP TO 20	03(09.38%)	02(03.08%)
21-30	12(37.50%)	09(13.85%)
31-40	08(25.00%)	21(32.30%)
41-50	06(18.75%)	15(23.08%)
51-60	01(03.12%)	13(20.00%)
>60	02(06.25%)	05(07.69%)
TOTAL	**32(100%)**	**65(100%)**

TABLE 9 : COMPARATIVE STUDY OF MUCINOUS SURFACE EPITHELIAL TUMORS.

Other Studies	Benign	Borderline	Malignant
Prabhakar &Maingi et al[6]	72.3%	5.7%	22.0%
Maheshwari et al[8]	62.2%	8.9%	28.9%
Koonings et al[4]	75.0%	10.0%	15.0%
Chaitin et al[9]	80.0%	10.0%	10.0%
Present Study	85.7%	14.3%	00.0%

TABLE 10 : COMPARATIVE STUDY OF SEROUS SURFACE EPITHELIAL TUMORS.

Other Studies	Benign	Borderline	Malignant
Prabhakar & Maingi et al[6]	78.9%	0.00%	21.9%
GG Swamy et al[5]	86.0%	03.5%	10.5%
R Jha et al[7]	60.0%	10.0%	30.0%
Samina Zaman Et al[10]	88.0%	01.5%	10.5%
Present study	81.3%	03.1%	15.6%

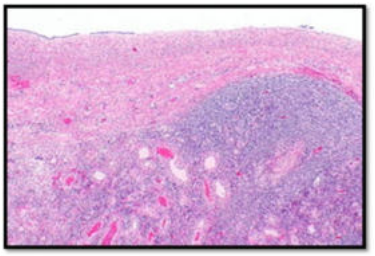

FIGURE 1 : BENIGN SEROUS CYSTADENOMA OF OVARY

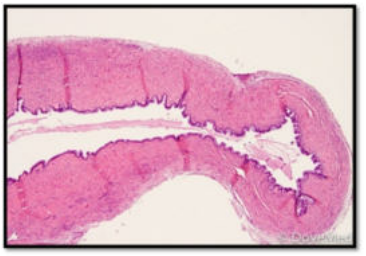

FIGURE 2 : BENIGN MUCINOUS CYSTADENOMA OF OVARY

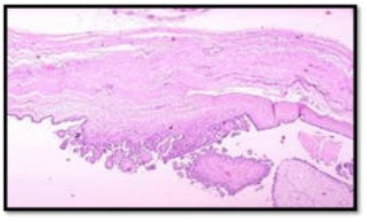

FIGURE 3 : BORDERLINE SEROUS CYSTADENOMA

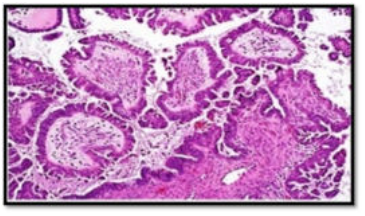

FIGURE 4 : SEROUS CYSTADENOCARCINOMA

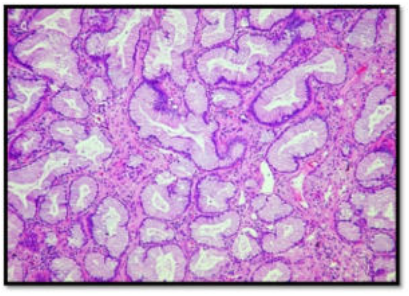

FIGURE 5 : MUCINOUS CYSTADENOCARCINOMA

CONCLUSION:

Incidence of surface epithelial tumor is 44.5% of all ovarian tumors studied. Benign surface epithelial tumors are more common than malignant. Most common pathology is benign serous cystadenoma. The commonest malignant tumor among surface epithelial tumor is the serous carcinoma. Most of the surface epithelial tumor occurs in reproductive age group. Benign surface epithelial tumors are more common in 3rd decade and malignant surface epithelial tumors are more common in 5th decade. Thus the incidence of surface epithelial tumor is related to the age. Most common clinical presentation is abdominal pain and enlargement.

References:

1. Rosai and Akerman, Female Reproductive System.In ;Rosai J, editors.Surgical Pathology,9th edition Mosby,Elsevier.19;1649-1736(2)2005
2. Henry Grey : Female Reproductive.In Susanstndring et, editors. Grays anatomy, 40th edition.India: Elsevier;1293-1298,2009.
3. Nakashima N,Nagasaka T,Fakata S et al: Study of ovarian tumors treated at Nagoya University hospital, 1965-1988.Gynecol Oncol 37:103-111,1990.
4. Kooning P P, Campbell k, Mishell DR Jr et al: relative frequency of primary ovarian neoplasms.A 10 year review.obstretogynecol 48,579-89,1989.
5. G G Swamy 1 and N Satyanarayana 2, Clinopathological analysis of ovarian tumors-A study on five years Nepal Medical coll J:12(4):221-223,2010.
6. Prabhakar BR, Maingi k: Ovarian tumors. Ind J PatholMicrobiol 32:276-281,1989.
7. R Jha and S Karki, Histological pattern of ovarian tumors and their age distribution, Nepal Med Coll J; 10(2):81-85,2008.
8. Maheshwari V, Tyagi SP, Saxena K et al: Surface epithelial tumors of the ovary.Ind J PatholMicrobiol 37:75-85,1994.
9. Chaitin BA, Greshenson DM,Evans HL: Mucinous tumors of the ovary.A clinicopathological study of 70 cases.Cancer 55: 1958-1962,1995.
10. Samina Zaman, Sarosh Majid. A Retrospective study of ovarian tumors and tumor like conditions ; J Ayub Med Coll Sbbotabad 22(1);2010.