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TO STUDY THE VARIOUS MORPHOLOGICAL ASPECTS OF SURFACE EPITHELIAL TUMORS OF THE OVARY

[1]Dr. Paresh Vaghela, [2]Dr. Dharmesh Dhanani, [3]Dr. Kalpesh Rathod & [4]Dr. Chintan Babubhai Patel

[1]Assistant Professor, Department of Pathology, Kiran Medical College, Surat, Gujarat
[2]Assistant Professor, Department of Surgery, Kiran Medical College, Surat, Gujarat
[3]Assistant Professor, Department of Pathology, Shanataba Medical College, Amreli, Gujarat
[4]Assistant Professor, Department of Surgery, Kiran Medical College, Surat, Gujarat

Corresponding Author: Dr Chintan Babubhai Patel
patelium@gmail.com

ABSTRACT

Background: Ovarian cancer are mostly (80%) benign, and they occur mostly in young women between 20 and 45 years. Borderline tumors occur at slightly older ages while incidence of malignant tumors increases with age, occurring predominantly in perimenopausal and postmenopausal women **Aim:** this study was undertaken to assess the presentation and the morphological variants of surface epithelial ovarian neoplasms

Methods: This was a cross sectional study, conducted in the department of pathology, P.D.U. Medical College and Hospital, Rajkot. All Specimens received during the study period were analysed for the histopathological presentation and various morphological pattern of surface epithelial tumors were recorded.

Results: A total of 40 diagnosed cases of surface epithelial tumours were enrolled and asses in this study**.** Majority of them (80%) were serous, 15% were mucinous, 2.5% transitional cell, 2.5% undifferentiated tumor and 0% were endometrioid, Majority of the Serous tumours was benign (81.3%), 15.6% were malignant and 3.2 was borderline in nature. Among mucinous tumours 83.3% was benign and 16.7% were borderline. All transitional cell tumours were malignant in nature.

Conclusions: Benign Surface Epithelial Tumours are more common than malignant.Most common pathology is benign serous cystadenoma**, t**he commonest malignant tumour among Surface Epithelial Tumours is the serous carcinoma,

Keywords: Surface epithelial tumours, Benign, Malignant, serous tumour, mucinous tumour.

1. INTRODUCTION

Ovary is a unique organ in the body which can be a seat of large number of neoplasms, benign, malignant, primary and secondary with wide spectrum of clinical and histological patterns. Though a small organ, ovary has been described to have enormous differentiating potential responsible for a profound variety of tumors [1]. Worldwide, ovarian cancer is the sixth most common cancer in women and the seventh most common cause of cancer death. There are about 204,000 new cases and 125,000 deaths annually [2]. A woman's lifetime risk for ovarian cancer is 1.4% but is estimated to be 15–60% for women with a strong family

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history and/or those who inherited a germline mutation in certain cancer susceptibility genes [3]. 90% of all ovarian carcinomas and two thirds of all ovarian neoplasms are surface epithelial tumours. These tumours assume a wide array of histological pattern making it an interesting topic for study. Knowledge of the type of tumour and differentiation helps in judicious management of the patient in terms of appropriate treatment and follow-up [4-5]. About 80% of ovarian tumors are benign, and these occur mostly in young women between 20 and 45 years where as borderline tumors occur at slightly older ages. Incidence of malignant tumors increases with age, occurring predominantly in perimenopausal and postmenopausal women [6-7]. The main factors involved in the etiology are the age, genetic factors and reproductive factors. Ovarian tumors are insidious in onset and usually diagnosed at late stage. They commonly present with abdominal pain, a lump or menstrual irregularity [8-9]. Histological types of ovarian surface epithelium tumours such as tubal type in serous neoplasms, endometrial type in endometrioid tumours and endocervical type in atleast some mucinous neoplasms are attributed to this embryonic proximity [10].

Aims & objectives: To study the representation and various morphological aspects of Surface Epithelial Tumors (SETs) of ovary

2. MATERIAL AND METHODS

This was a cross sectional observational study, carried out at histopathology laboratory in the department of pathology, P.D.U. Medical College and Hospital, Rajkot, India, over a period of 2 years 2 month from July2009 to august 2011.

The specimen received from Obstetrics & Gynecology, surgery department as well as Padmakuwarba hospital are preserved immediately in 10% neutral buffered formalin. Total 90 cases were enrolled in our study.

All the socio-demographical, clinical and histopathological data were recorded according to standard Performa.

The external surface of tumor was examined for the completeness of capsule, presence of any papillae or nodules. Multiple sectioning of the specimen was done.

The tissues were fixed in 10% formalin and processed through standard. Paraffin embedding technique. After processing in automated tissue processors, the section from the tissue bit taken for further stain. The slides were stained with haematoxylin and eosin (H&E). The relevant history and investigations were recorded and comparison of histopathological findings with clinical data was done for diagnosis and staging.

Statistical analysis: statistical analyses were done by using SPSS software version 22. Data Frequency, percentage, Mean and standard deviation were calculated. P value <0.05 considered statistically significant

3. RESULTS

A Total 90 ovarian tumor specimens was received and analysed, incidence of surface epithelial tumors was 44.5%. (Table 1)

Table 1: Incidence of Surface Epithelial Tumours (SETs)

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

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Among total surface epithelial tumours (40), predominantly were serous tumours 31 (77.5%), Out of these, 26 cases were benign (83.9%), 01 cases (03.2%) were borderline and 04 cases (12.9%) were malignant. Mucinous tumours were the second most common 7(17.5%)**, o**ut of which, benign, borderline & malignant mucinous tumours accounted for 06 cases (85.5%), 01 case (14.5%) & 0 case (0.0%) respectively. One case of malignant Brenner tumour and one case of mixed mullerian tumour were diagnosed. No case of endometrioid Adenocarcinoma was diagnosed [table 2]

Table 2: Histopathological categories of various types of Surface Epithelial Tumours

Histological types	Benign	Borderline	Malignant
Serous tumours	26	01	4
Mucinous tumours	6	01	0
Mixed malignant tumour	00	00	01
Transitional cell tumours	00	00	01
Endometrioid tumours	00	00	00
Total	**32**	**02**	**06**

In relation to menstruation status, most of the surface epithelial tumours 28 (70%) were seen in menstruating women followed by 27.5% was seen in menopausal women.

Table 3: Distribution of cases according to Menstrual Status

Menstrual Status	Benign	Borderline	Malignant	Total cases
Premenstruating	01	00	00	01
Menstruating	25	01	02	28
Menopausal	06	01	04	11
Total	32	02	06	40

Most common presentation were chronic abdominal pain (92.5%) followed by abdominal mass (52.5%), details of clinical presentation was shown in figure:1

Figure 1: Presenting Symptoms & Clinical Findings in surface epithelial tumours

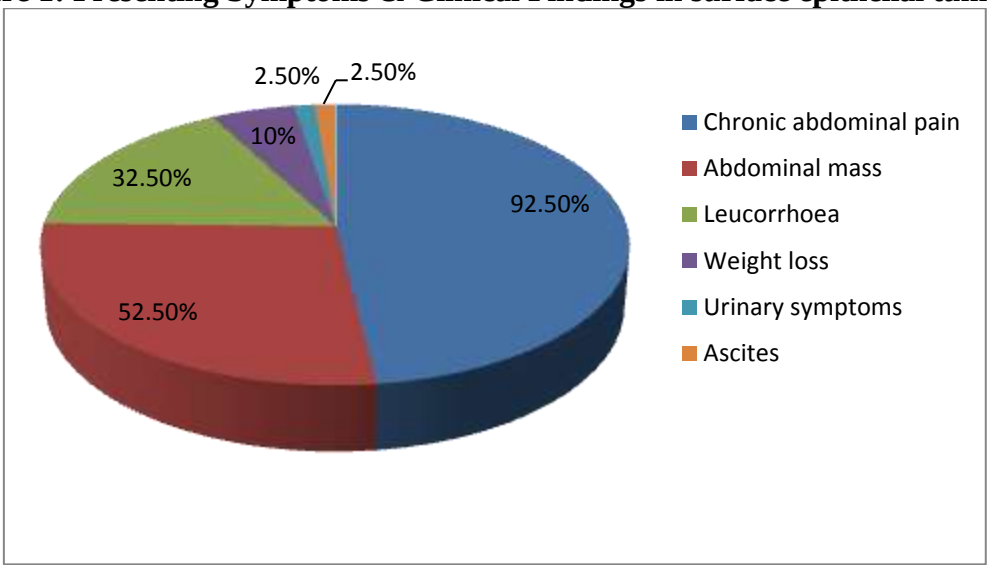

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Image 1: showing Gross and H & E stain-40X appearance of serous cyst adenoma

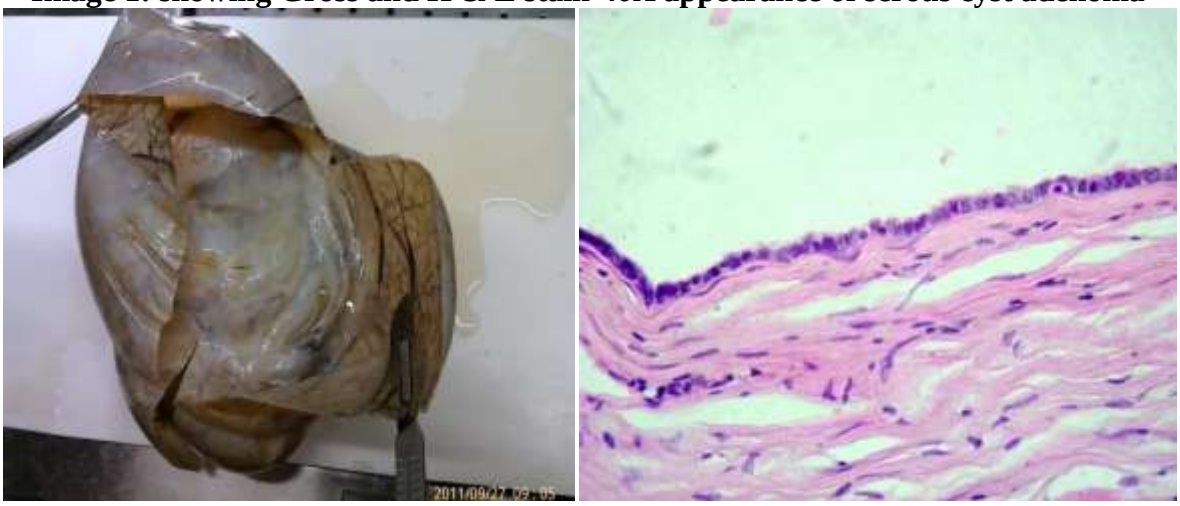
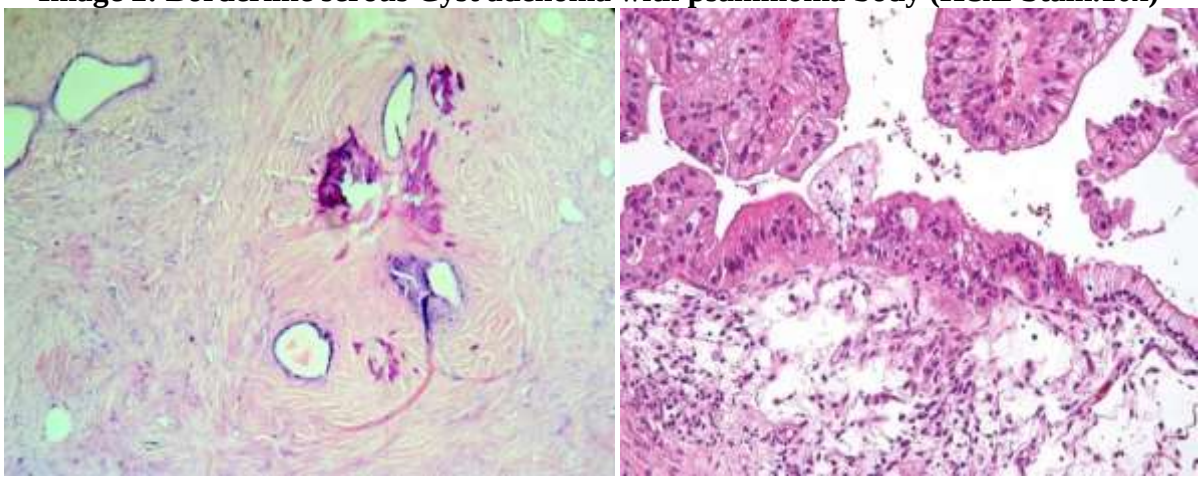


Image 2: Borderline serous Cyst adenoma with psammoma body (H&E Stain.10x)



4. DISCUSSION

Surface epithelial tumours are the most common malignancy among reproductive age groups women.

Present study observed the surface epithelial tumours accounted for 44.5% of ovarian tumours, similar results also obtained by Alice ST et al [11], Scully RE et al [12] and Zaloudek C et al [13], whereas Zaman et al [14] reported higher percentage of SETs than current study.

The present study showed majority of the SETs were benign (85%) only 15% of the SETs to be malignant. A study conducted by Koonings PP et al [15] reported that 90% of Surface Epithelial Tumours were malignant.

Benign SETs were predominantly cystic while borderline & malignant SETs showed both solid and cystic components with haemorrhage & necrosis

Serous tumors were the commonest among Surface Epithelial Tumours, comprising 34.5% of all ovarian tumors which is comparable with the study of R Jha et al [16] and GG Swamy et al [17] reported 26.1% and 30% respectively.

Incidence of benign serous tumors was 81.3%. Borderline tumors accounted for 03.1%, which is consistent to the study carried out by, Suneetha et al [18] and badge et al [19].

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In the present study, mucinous tumours comprised 15% of Surface Epithelial ovarian tumours. The reported incidence in other studies varied from 8% to 23%. Benign mucinous cystadenoma accounted for 85.7%, borderline tumours 14.3% and malignant tumours 00% of the mucinous tumours in the current study. These were comparable to studies done by Kanthikar SN [20] and Mondal et al [21].

In the present study, the incidence of malignant Brenner tumour was 2.5% of all Surface Epithelial Tumours. Brenner tumours account for 2 to 3% of all ovarian neoplasms; less than 2% of the reported cases have been borderline or malignant, concordance with the, Navarini R et al [22] and Seidman JD et al [23].

The present study showed incidence of undifferentiated tumour to be 2.5% of all ovarian tumours & 2% of Surface Epithelial Tumours. Reported incidence varies according to definition used for this entity. WHO defines an undifferentiated carcinoma as one that exhibits no or only rare and minor foci of differentiation [24-25].

In our study SETs were mostly associated with menstruating women, similar findings seen by Mankar DV et al [26] and Nalini R et al [27].

The most common presenting complaint was pain in abdomen followed by lump in abdomen and leucorrhoea, our results correlate with the study conducted by Birare SD et al [28] and K. Nageswararao et al [29].

Oral contraceptives have been believed to be protective for ovarian cancer [30]. In present study, none of the women reported to have consumed oral contraceptive pills for duration of more than 6 months

5. CONCLUSION:

Surface epithelial ovarian tumors constitute a major burden among women presenting to the gynecological OPD. Among both benign and malignant tumors, serous type was the commonest followed by mucinous type Proper treatment of SETs depending on the type of tumor is essential to improve outcome in cases of ovarian tumors emphasizing the need for microscopic histopathological examination and grading in every case of ovarian tumor.

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