

TITLE OF THE ABSTRACT : CATEGORIZATION OF OVARIAN TUMORS WITH EMPHASIS ON FALLOPIAN TUBAL CHANGES IN SEROUS TUMORS, USING P53 AS AN IMMUNOHISTOCHEMICAL MARKER

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Abstract-

Context: Ovarian tumors are the seventh most common cause of death by cancer among women. Serous carcinomas arise either de novo or from a fallopian tube which shows specific histopathological and immunohistochemical changes much prior to the development of the ovarian carcinoma. It may be beneficial to detect these initial changes to make an early diagnosis of these cancers in high- risk individuals.

Aims and objectives:

1. To categorize the ovarian tumors in the last 10 years, (from 2006 to 2015) as per the WHO 2014 classification.
2. To assess the utility of STIC and p53 staining patterns as precursor lesions for serous ovarian tumors diagnosed from January 2015 to December 2015.

Methods and Material:

We tabulated all the of ovarian tumours and tumour-like lesions reported in the Department of Pathology, Christian Medical College, Vellore over a 10-year period (2006 - 2015).

In the other part of the study, we examined the pathological changes in fallopian tubal sections of 85 serous tumor cases and 10 controls reported during the year 2015.

Results:

- Most of the ovarian tumors in our study population were benign. The common age at presentation was 35-49 years. Epithelial tumors were the most common broad subgroup of ovarian tumors; of which serous tumors were more common than the others.
- The STIC lesions in the fallopian tubes of serous ovarian tumors were seen more commonly seen in high grade serous carcinoma cases as compared with the other serous tumors.
- Abnormal expressions of p53 by immunohistochemistry were exclusively seen in high grade serous carcinoma cases of all the serous tumors.

Conclusions:

1. Categorization of ovarian tumors in 10 years period: The majority of the ovarian tumors were **benign tumors (67%)**, followed by malignant tumors (29%) and borderline tumors (4%). There was a wide range of age, from 4 months to 89 years with peak age group of 35-49 years (37%). Surface epithelial tumors were the most common – (1058, 65%), followed by germ cell tumors- (683, ~18%) and tumor like lesions- (392, 10%). Among the surface epithelial tumors, serous tumors were the commonest (42%) of which majority were high grade.
2. STIC (serous tubal intraepithelial carcinoma) and p53 staining:

- STIC was present in 30 /85 (41%) of all the serous tumors, 23/42 (55%) of high grade serous carcinomas ($p = <0.01$), and 7/43 (8%) of other serous tumors and **none of the controls**.
- Abnormal p53 expression exclusively seen in the high grade serous carcinomas: (20/42, 48%), ($p < 0.05$).
- STIC and abnormal p53 expressions might be the precursors of high grade serous carcinomas. **p53 signature** was seen only in 4/95 cases, which included, 3 high grade serous carcinoma cases and 1 control case. **None of the benign or borderline cases showed p53 signatures**. This finding also suggests that the high grade serous carcinomas have a different pathogenesis from that of the other types of serous tumors.

Key-words: Serous tumors, endometriotic cyst, tumor-like lesions, STIC, abnormal p53 staining, p53 signature.