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Serous Surface Papillary Adenocarcinoma: a rare variant of serous carcinoma - report of two cases

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ABSTRACT

Serous tumors constitute about 25% of all ovarian tumors. Serous adenocarcinomas are the commonest form of the malignant epithelial ovarian tumors accounting for 26% of the cases. The commonest morphologic form is the cystadenocarcinoma. Serous surface papillary adenocarcinoma is a very rare morphologic entity which is often bilateral and highly aggressive. Reports showing an exact incidence are not available in literature. We present a case of serous surface papillary adenocarcinoma confined to ovary.

Keywords: *Ovary, Serous Carcinoma, Serous Surface Papillary Adenocarcinoma*

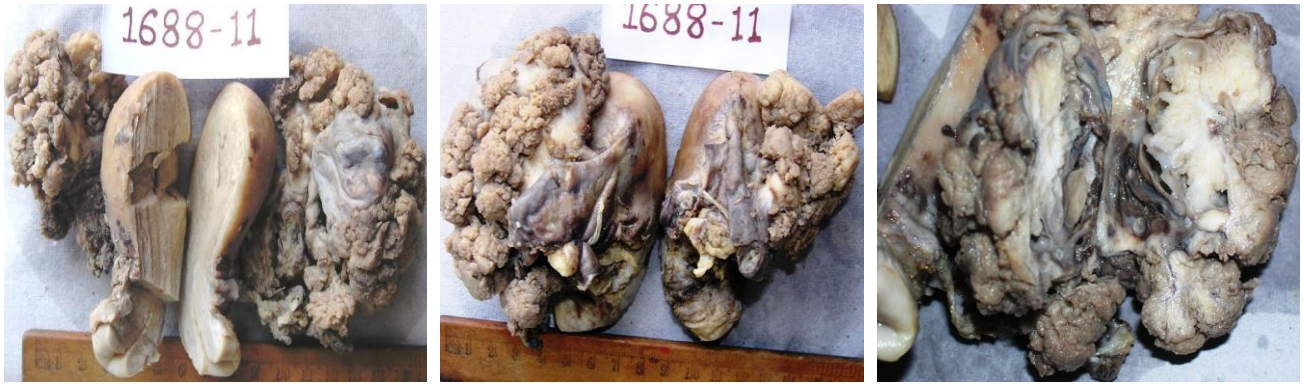
Serous tumors constitute about 25% of all ovarian tumors [1]. Serous adenocarcinomas are the commonest form of the malignant epithelial ovarian tumors accounting for 26% of the cases in the Unites States [2]. The commonest morphologic form is the cystadenocarcinoma with or without surface involvement.

Serous surface papillary adenocarcinoma (without the cystic component) (SSPC) is a very rare morphologic entity which is often bilateral and highly aggressive [3,4]. Reports related to this neoplasm are rare and its exact incidence has not been documented in literature. The number of serous ovarian tumors reported in our hospital from 2007 to 2011 (5 year period) constituted 22 benign, 3 borderline and 6 malignant cases; out of which, only 1 belonged to the category of SSPC.

CASE REPORT

A 60 year old female presented with abdominal distension due to ascites for which ascitic tap was done which was positive for malignant cells. An ultrasound (USG) showed bilateral ovarian enlargement. The patient was otherwise in good health. A radical hysterectomy was done. CA-125 estimation was not done for the patient. As patient belonged to lower socioeconomic group and histology was consistent with its primary origin and patient had no other clinical findings or suspicion of malignancy elsewhere, IHC work up was also not done.

On gross pathologic examination, uterus, cervix and both tubes appeared normal. Both the ovaries were enlarged and measured 6x5x4cms and 5x3x2cms. Their surface was studded all over with extensive papillary excrescences (**Fig 1**). On cytological examination, ascitic fluid showed loose sheets of large, pleomorphic, hyperchromatic cells with irregular nuclear contours and moderate amount of cytoplasm arranged singly and in clusters (Fig.2). On histopathology examination, microscopy showed papillary fronds with numerous fibrovascular cores covered by multiple layers of highly pleomorphic epithelial cells with vesicular nuclei and one to two nucleoli. Prominent stromal invasion was observed. These findings confirmed the diagnosis as SSPC.



Figures - Fig. 1: Bilateral ovarian masses showing multiple papillary excrescences over the entire surface. Fig. 2: Uninvolved Fallopian tubes. Fig. 3: Cut surface of the left ovarian mass. Note absence of cystic component.

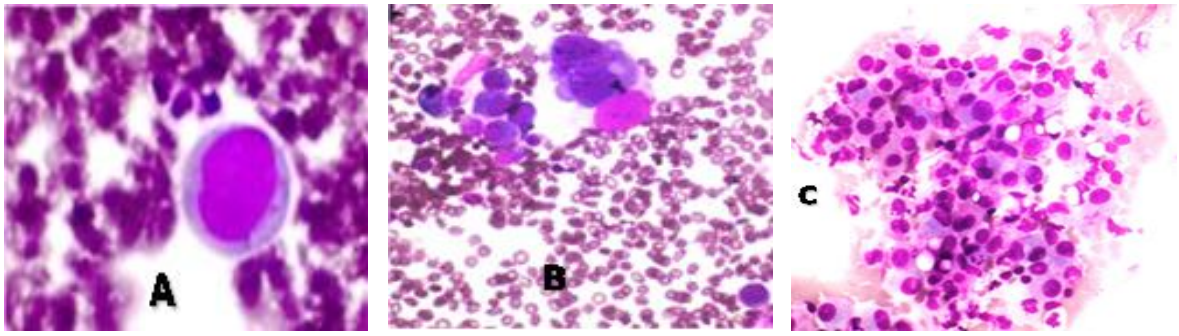


Figure 4 - Giemsa stain. A: High power view (X400). B: Lower power view. C: Low power view.

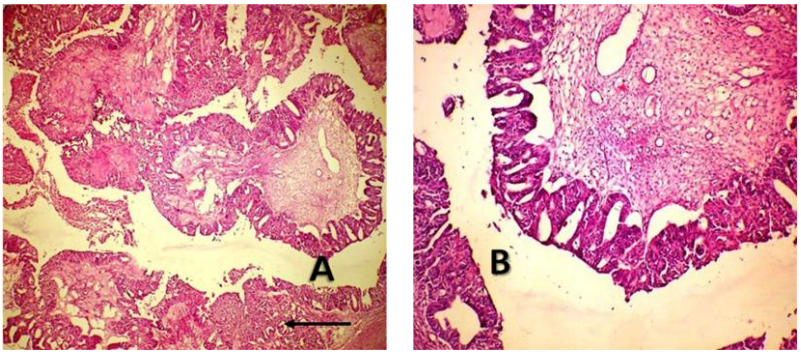


Figure 5 - A: Low power view shows surface papillary fronds covered by multilayered neoplastic cells and foci of stromal invasion (arrow). B: A high power view (H&E X400) on one of the papillae.

DISCUSSION

Serous surface papillary carcinoma is a distinct type of ovarian cancer. As per reports in literature, most patients present with extensive intra-abdominal disease at the time of diagnosis. This may be in the form of peritoneal carcinomatosis with a highly elevated serum CA-125 level. The ovaries may not be markedly enlarged [5]. Kim et al also showed that SSPC has macroscopic normal ovaries accompanied by diffuse peritoneal dissemination due to which it cannot be usually diagnosed preoperatively.

USG, CT, and MRI findings demonstrating nodularities along the surface of normal-sized ovaries, adjacent organs and pelvic peritoneum along with peritoneal seedings may suggest the correct preoperative diagnosis of SSPC [6]. In our case, USG showed only enlarged bilateral ovaries and no other findings. They may also present with systemic lymphadenopathy but without any evidence of intra-abdominal disease [7].

SSPC and peritoneal papillary serous cancers have common histologic appearance and are considered as part

of a disease spectrum and show a similar responsiveness to surgical therapy as well as chemotherapy and should be treated similarly [8]. On the contrary, Kim et al has mentioned that SSPC should be differentiated from other unresponsive cases of peritoneal carcinomatosis as it has a better response to surgical response followed by chemotherapy [5]. Mulhollan et al has mentioned SSPC as a multicentric peritoneal tumor that can spare or minimally involve ovaries and are more aggressive than the usual form of serous carcinoma of ovary [9]. Studies have shown that SSPC can be associated with coexistent, non-peritoneal, serous-type carcinomas; superficial endometrial adenocarcinomas; and intramucosal adenocarcinoma of the fallopian tube [9].

Role of IHC has been emphasized in differentiating primary serous ovarian carcinoma from metastatic colorectal adenocarcinoma to ovary suggesting CK7 to be the most helpful marker which is extensively positive in primary carcinoma. CK20 and CEA are also of value to differentiate serous ovarian which are generally negative from colorectal adenocarcinomas [10]. Studies have shown that immunohistochemistry does not help in separating papillary serous carcinomas of the peritoneum from serous carcinomas of the ovary [11].

In the 5 year period from 2007 to 2011, SSPC was seen only in 1 of the 31 cases of serous epithelial tumors accounting for 3.22% cases observed at the department of pathology in our hospital. Our case differed from those reported in the literature with regard to their confinement to the ovary and the absence of lymphadenopathy and other coexistent malignancy.

CONCLUSION

Serous surface papillary carcinoma is a rare morphologic entity of the serous epithelial tumors and high index of suspicion is required to diagnosis it correctly.

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