

Advanced Stage Bilateral Ovarian Serous Cystadenocarcinoma in a Teenage Girl Presenting With Low Back Pain: A Rare Case Report

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Abstract: We report a rare case of stage III bilateral ovarian serous cystadenocarcinoma in a teenage girl with omental deposit presenting initially only with complaints of low back pain a few weeks. USG, contrast CT and high serum CA 125 suggested an ovarian neoplasm and subsequently treated by total abdominal hysterectomy with bilateral salpingo-oophorectomy and omentectomy. Histopathology together with immunohistochemistry confirmed the lesion.

Keywords: bilateral, serous cystadenocarcinoma, low back pain, teenage .

1. Introduction

Ovarian carcinoma accounts for a large number of deaths and is one of the common leading cause of cancer fatalities in women [1]. Approximately, 60% of all ovarian tumors are epithelial, arising from the ovarian surface epithelium or small epithelial inclusion cysts. Serous and mucinous tumors are the most common epithelial tumors [1]. Most common presenting symptoms of surface epithelial ovarian malignancy are abdominal pain, distention due to ascites or bulky abdominal tumor. Serous carcinoma most often occurs in the sixth and seventh decades, and the reported mean age varies from 57 to 63 years, but it is rare in children and adolescents. The majority of ovarian cancers in children and adolescents are stage I at diagnosis and conservative management with preservation of fertility is often possible. Nearly thirty serous epithelial cancers have been reported in females under age 20 and most of them are in early stage[2]. Hereby, we present an unique case of bilateral advanced stage papillary serous cystadenocarcinoma in a 19-year-old female who presented atypically only with complaints of low back pain.

2. Case Report

A 19-year-old teenage girl with complain of progressively increasing low back pain of few weeks duration presented in the outpatient department. There were no other systemic symptoms except mildly decreased appetite.

Her past history and family history was insignificant. General physical examination was normal. Results of laboratory studies were within normal limits except mildly elevated erythrocyte sedimentation rate of 50 mm/h (normal range, 0–20 mm/h). X-ray of hip joint, pelvis and lumbar vertebra was also unremarkable.

In due course the patient developed lower abdominal pain which leads to an ultrasonography of whole abdomen which

reveals bilateral mildly enlarged adnexa with heterogeneous solid cystic lesion having septations, internal echoes and mural component. Evaluation with contrast material–enhanced computed tomography(CT) of the abdomen and pelvis confirmed the previous finding along with reported multiple soft-tissue nodules scattered through the omentum. Thereafter serum CA 125 level assay showed elevated value(329.5U/ML). On the basis of the above findings total abdominal hysterectomy with bilateral salpingo-oophorectomy and omentectomy was performed and the specimen was sent for histopathological examination. (figure 1)



Figure 1: uterus with bilateral ovarian mass and omental cake

Grossly right ovary measured 5×3.5×3 cm. Cut section showed partly cystic and partly solid tumor. Cystic part showed serous fluid and solid areas showed variegated appearance and papillary projections at places. Left ovary measured 4.5×2.5×3.5 cm. Representative tissue pieces were

embedded, processed, stained with haematoxylin and eosin and examined microscopically.

Sections from both ovary showed a tumor arranged predominantly in branched papillary architecture with central fibrovascular core, lined by atypical tumor cells displaying nuclear stratification invading into ovarian stroma and surrounded by desmoplastic stroma. (figure2).The tumor cells were pleomorphic, with vesicular nucleus, prominent nucleoli and a moderate amount of eosinophilic cytoplasm. Atypical mitotic figures were present along with some psammoma bodies. There are areas of haemorrhage and necrosis also.

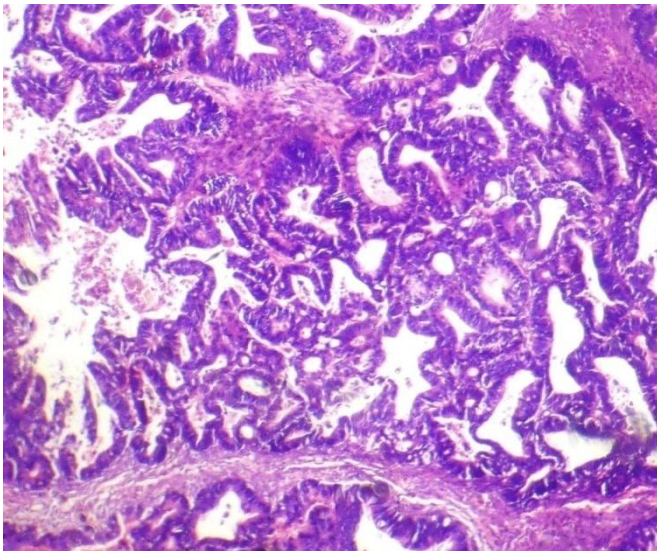


Figure 2: Microphotograph showing complex papillae lined by stratified pleomorphic cells

Specimen of omentum with fibrofatty tissue measured 16×12 cm. Microscopical examination confirmed metastatic deposit in omentum.(figure 3)

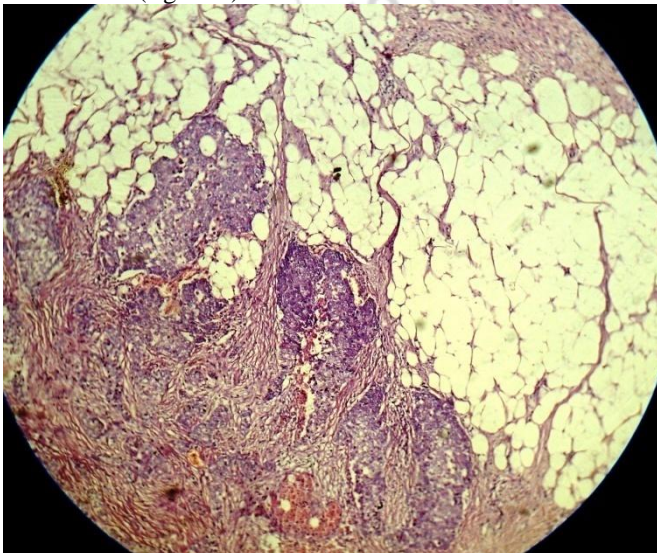


Figure 3: Microphotograph showing omental deposit of serous adenocarcinoma

Immunohistochemistry (IHC) marker study revealed that the tumor cells displayed strong membranous CK7 and nuclear ER and p53 positivity and CK20 and CEA negativity.(figure 4,5) confirming our histopathological diagnosis.

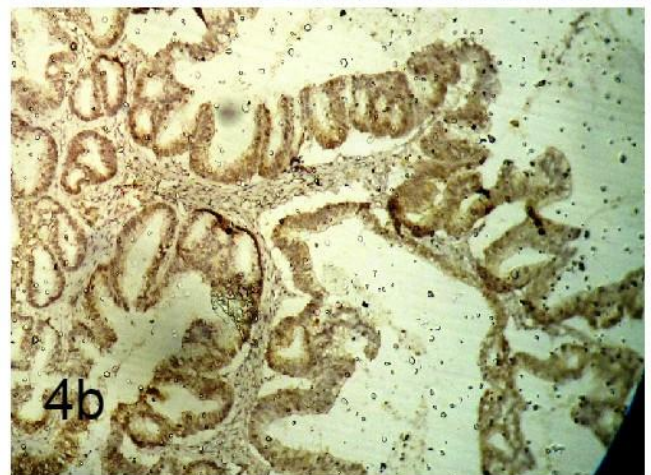
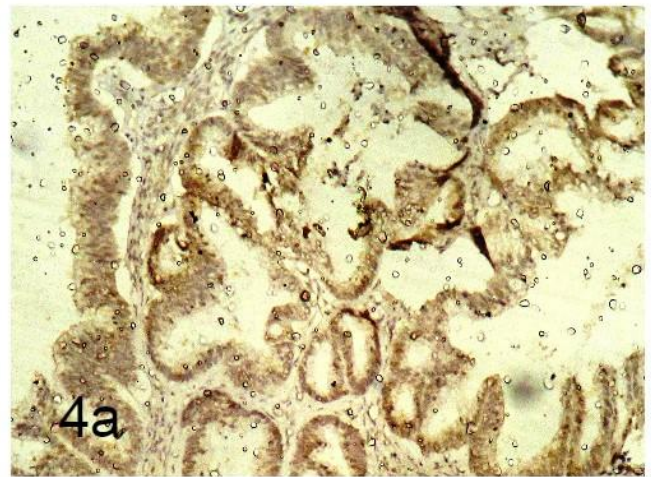


Figure 4a & 4b: Microphotograph showing tumor is strongly and diffusely positive for ER & p53

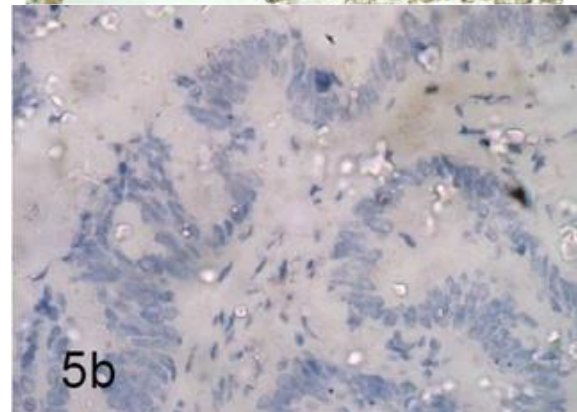
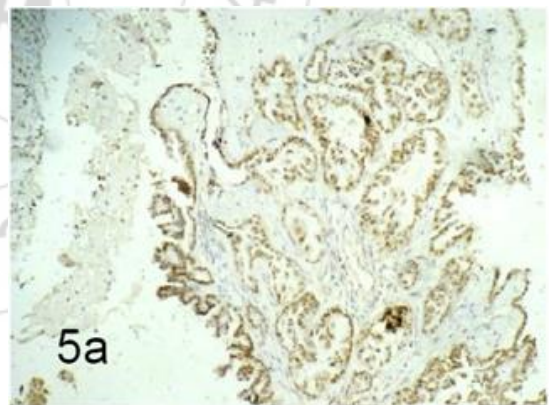


Figure 5a & 5b: Microphotograph showing tumour is positive for CK7 & negative for CK20

3. Discussion

Bilateral ovarian tumors are not an uncommon entity and its incidence is approximately 25% of all ovarian malignancies. The bilateral involvement can be as a result of contralateral spread, presence of simultaneous independent primary tumors or distant metastasis [3]. Papillary serous cystadenocarcinoma of the ovary is the most common ovarian carcinoma comprising nearly 50% of all malignant tumors of ovary and is also well known for its bilaterality. They usually affect older woman and is rare in children and adolescents. In children and adolescents, germ cell tumors are most frequently found. Moreover, only <5 cases of advanced stage ovarian cancer in adolescent age group have been till reported as per our knowledge[2]. Our case is noteworthy as the patient is a 19 years old young teenage and presented with stage III disease.

Most common presenting symptoms of ovarian cancers are usually pain abdomen, heaviness of lower abdomen, lump abdomen, huge ascites, loss of appetite, easy fatigue, menstrual abnormalities or asymptomatic. Whereas uncommon symptoms like low back pain, fever, breathlessness are also on record in a minority of cases. and[4]-[7]. Our teenage patient was also presented atypically with low back pain. Studies have attempted to systematically record symptoms that are experienced prior to diagnosis, but the data collection checklists have been derived using the existing literature on ovarian cancer symptomatology which may miss previously unrecorded events and may be the key to under represent certain symptoms like low back pain.

The most common sites of involvement of ovarian serous carcinoma are the contra-lateral ovary, peritoneal cavity, para-aortic lymph nodes, pelvic lymph nodes and liver. With intra-abdominal spread there is often ascites and involvement of omentum.[8] In contrast, our patient had involvement of omentum but without any ascites. Malignant serous tumors are further divided into borderline, low grade and high grade. The low grade serous tumors are associated with their precursor borderline tumors and harbor BRAF/K-ras mutations while genetic abnormalities of high grade tumors include p53 mutation, p16 expression and loss of BRCA1 expression [9]-[10].

Serum CA 125 levels and ultrasonography are useful tools for screening, preoperative diagnosis and monitoring therapy [11]-[12]. This case also had markedly elevated CA 125 levels at the time of presentation. Treatment modality for high grade papillary serous cystadenocarcinoma is cytoreductive surgery with adjuvant platinum based chemotherapy as in our case. These tumors have a poor prognosis with a low survival and high recurrence rates [10].

4. Conclusion

To conclude, bilateral advanced stage ovarian serous cystadenocarcinoma presenting only with low back pain in a teenage patient is extremely rare and pose a diagnostic and therapeutic challenge, making careful clinical, radiological and pathological examination imperative.

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