Transitional Cell Carcinoma of Ovary: A Rare Case Report

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ABSTRACT

Transitional cell carcinoma (TCC) of ovary is a rare subtype of ovarian surface epithelial tumor. Histopathological examination remains the first tool in diagnosis. Surgical resection is the primary therapeutic approach followed by chemotherapy. We present a case of a 51 years old postmenopausal woman with pelvic mass and raised CA-125, diagnosed as TCC of ovary and treated by total abdominal hysterectomy with bilateral salpingo-oophorectomy followed by 4 cycles of chemotherapy and completion surgery.

KEY WORDS: chemotherapy, ovarian cancer, surgery, transitional cell carcinoma.

INTRODUCTION:

Transitional cell carcinoma (TCC) is a rare type of primary ovarian carcinoma with reported incidence of 1-5% among all primary ovarian carcinoma.\(^1\)\(^-\)\(^2\) In the recent years, researchers have made attempt to know the natural history and outcome of this subtype of ovarian tumor. The common symptoms include abdominal pain, abdominal swelling or distension and weight loss.\(^3\)

Histopathological examination remains the first tool used in diagnosis of these heterogeneous tumors and in the separation of closely related tumors.\(^3\) It differs from malignant Brenner tumor by the absence of a benign or borderline Brenner component.\(^3\) Better chemosensitivity of ovarian TCC has been suggested as compared to all other types of ovarian carcinomas after standardized chemotherapy.\(^2\) Patients with TCC are less likely to demonstrate resistance to platinum chemotherapy and have improved overall survival when compared to the patients with papillary serous ovarian cancer.\(^3\) We are reporting a case of transitional cell carcinoma of ovary in a 51 years female.

CASE PRESENTATION:

A 51 years postmenopausal female from Kathmandu presented with complaints of pricking pain in lower abdomen on and off for two weeks. Physical examination revealed a pelvic mass extending midway between pubis symphysis and umbilicus. She was evaluated with abdominal and pelvic ultrasonography which demonstrated a well-defined cystic lesion measuring 12.2x9cm showing internal solid component with minimal vascularity at right adnexa. Right ovary was noted separated from the lesion. She was further evaluated with MRI pelvis showing approximately 10x12.5x12.5cm sized complex predominantly cystic mass in lower abdomen extending to pelvis located slightly on right side and showed low signal intensity in T1 weighted images. T2 and fat suppressed T2 weighted images showed iso to low signal intensity solid component within anteroinferior aspect of the mass with multiple isointense variable thickness septations. Minimal fluid was noted in the pelvis. There were no enlarged lymph nodes noted. The impression was complex ovarian cyst with differential diagnosis of atypical dermoid. Her CA-125 level was >1000U/ml (normal range: 0-35 U/ml).

She underwent total abdominal hysterectomy with bilateral salpingo-oophorectomy and the specimen was subjected for histopathological examination. On gross
examination, right ovarian cyst measuring 13.5x11x8cm with smooth and congested external surface was observed. Cut section showed multiloculated cyst with solid areas largest measuring 6 cm in diameter. Microscopic examination showed tumor cells arranged in papillary pattern with multilayered transitional epithelium and smooth luminal border. The cell nests were irregularly distributed in fibrotic stroma. The cells showed pale and granular cytoplasm with large round to oblong nuclei and longitudinal grooves in many cells. Occasional atypical mitotic figures were also seen. The impression was malignant transitional carcinoma of ovary. Peritoneal wash fluid was positive for tumor cells.

With the diagnosis of TCC of right ovary stage IC, patient was started with Paclitaxel (175mg/m²) and Carboplatin (AUC 5) and received four cycles every three weeks. Her CA-125 level came to normal with chemotherapy. This was followed by infracolic omentectomy and appendicectomy with pelvic lymph node dissection. Histopathological report showed no evidence of residual tumour and lymph nodes negative for tumor deposits. Patient was then kept under follow up.

**Figure 1:** Sagittal T2 weighted image showing ovarian cyst with thin septa along with isointense to hypointense soft tissue component in anteroinferior portion of the cyst.

**Figure 2a:** Microscopic section showing tumor cells arranged in papillary pattern with multilayered transitional epithelium and smooth luminal border with fibrotic stroma. **Image 2b:** High power field image showing the cells with pale and granular cytoplasm, large round to oblong nuclei and longitudinal grooves.

**DISCUSSION**

TCC of ovary is a recently recognized subtype of ovarian surface epithelial cancer. Mean age of presentation is 56 years and 41% of the tumors are bilateral. The clinical presentation is indistinguishable from other types of ovarian carcinoma. Pain abdomen was the only presenting symptom in our patient.

TCC has architectural and cytologic features that readily distinguish it in most cases from other types of ovarian carcinoma. Recognition of these features will lead to a more consistent diagnosis of this tumor and aid in determining whether it has distinctive clinical features, particularly with regard to its behavior.
125 is clinically useful as a serum marker of tumor progression and recurrence.\(^7\)

Surgical resection is the primary therapeutic approach and patient outcomes following chemotherapy are better than for other types of ovarian carcinoma. So it is a reasonable concept to detect tumors when they are still confined within the ovaries.\(^4\) Five year survival of patients with TCC is 57% as compared to 31% for patients with other ovarian carcinomas after chemotherapy with platinum and paclitaxel.\(^2\)

Tazi et al.\(^7\) 2010 presented a case of 69 years old postmenopausal woman presented with pelvic mass and normal CA-125. Following surgery, the pathologic report revealed right ovarian TCC, stage IC. The patient underwent 3 cycles of carboplatin and paclitaxel and was disease free for 10 months. Martinez et al.\(^8\) 2014 presented a study of a 72 years female with stage IIIC TCC of ovary, who had relapsed after initial response to surgery and chemotherapy. They reintroduced carboplatin and paclitaxel along with bevacizumab after which the patient had complete response as documented by positron emission tomography-computed tomography (PET-CT) scan. Similarly, Lin et al.\(^3\) 2006 presented a case of 67 years old lady with pelvic mass and elevated CA-125. A staging operation with total abdominal hysterectomy, bilateral salpingo-oophorectomy, infracolic omentectomy and pelvic lymph node dissection was performed and the pathologic report was TCC, grade 2–3, stage IA of left ovary. The patient underwent 4 cycles of postoperative chemotherapy with carboplatin and cyclophosphamide. CA-125 levels declined to normal range after first cycle of chemotherapy.

TCC should be considered as a separate entity as it requires less aggressive treatment and has better outcome and survival as compared to other ovarian epithelial tumors.

**CONCLUSION**

TCC is a rare subtype of ovarian surface epithelial tumor. Diagnosis of TCC in the reported case was based on histopathological examination following surgery and differentiation from the closely related tumors. Surgical resection is the primary therapeutic approach for TCC, followed by chemotherapy.

**REFERENCES**