Testicular Choriocarcinoma Stage IV: Treated with Combination Chemotherapy

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Abstract

Choriocarcinoma, a rare variety of testicular germ cell tumour, is associated with poor prognosis. A stage IV choriocarcinoma treated successfully with combination chemotherapy is being reported.

Key Words

Choriocarcinoma testis, Chemotherapy

Introduction

Choriocarcinoma of the testis is an uncommon malignancy accounting for 0.3% of pure germ cell tumour of testis (I) and occurs in second and third decade of life. Because of its aggressive nature and its rapid spread, it is associated with poor prognosis.

We report a case of testicular choriocarcinoma stage IV (lung metastasis) treated with combination chemotherapy with 'BEP' regimen including Bleomycin, Etoposide and Cisplatin and achieved excellent result.

Case Report

A 29-year-old male presented to radiotherapy OPD with history of right testicular swelling for past three months following blunt trauma. Swelling was painful and gradually progressive. There was history of hemoptysis and dyspnoea on exertion for last one week. He was married with two children, there was no history of undescended testis.

On initial examination in urology department the right testis was enlarged, firm, slightly tender with transillumination test negative. Left testis was normal in size with dilated veins. The clinical impression was hematocele with or without testicular tumour. Initial investigation comprising USG revealed right testicular mass lesion.

Right sided orchiectomy was performed on the patient on 25.8.96 and histopathology report revealed choriocarcinoma of testis (Fig. 1,2). Patient was referred to Radiotherapy OPD on 13.9.96.

Fig 1. Low power photomicrograph showing the proliferating atypical trophoblastic cells along with extensive areas of haemorrhagic necrosis (H&E).

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After orchiectomy, patient's general condition was fair and had bilateral normal vesicular breath sounds with occasional crepitations. Per abdomen, CNS and CVS examination revealed no abnormality. Local examination revealed scar mark on scrotum (on right side) - 3x3 cm. hard nodular, non-tender stump palpable in right scrotal sac. Left testis was of normal size with normal sensations.

Complete investigative work up was done. Haemogram and biochemistry were normal. Chest X-ray showed multiple nodules in both lower zones suggestive of metastasis (Fig. 3). CECT chest also revealed lung metastasis (Fig. 4). Retroperitoneal lymphnodes were seen on CT scan of abdomen. Tumour markers were done on 14.9.96 comprising Alpha Feto Protein (AFP) (2.59) and β-human chorionic gonadotropins (β-HCG) 1556.8 mIU/ml).

Final diagnosis made was choriocarcinoma testis Stage IV (Lung metastasis). Treatment was done under Radiotherapy unit and patients was started on combination chemotherapy with 'BEP' regimen comprising of: Inj Bleomycin – 30 units / IV D1, Inj. Cisplatin – 30 mg / IV D1-D3, Inj. Etoposide – 150 mg / IV D-1-D3.

Chemotherapy was repeated with interval of 4 weeks, six such cycles of combination chemotherapy were administered with adequate hydration and antiemetics.

Patient tolerated chemotherapy well with occasional nausea and vomiting. After third cycle of chemotherapy, patient improved both clinically and radiologically and complete response was achieved after six cycles of combination chemotherapy.

Patient has been on regular follow up including periodic investigations. Patient last seen on 2.11.99 in Radiotherapy OPD was asymptomatic. Chest X-ray and CT chest were normal (Fig. 5.6). AFP and β-HCG were also within normal range. Our patient is thus with no evidence of disease 3 years after diagnosis of stage IV choriocarcinoma of testis.
Fig 5. X-ray chest showing normal study.

Fig 6. CECT chest showing disappearance of lung metastasis.

Discussion

Choriocarcinoma is defined as a germ cell tumour composed of a mixture of both cytotrophoblastic cells and syncytiotrophoblastic giant cells.

Over 90% of testicular neoplasms are of germ cell origin. Choriocarcinoma occurs 0.3% as a pure germ cell tumours (GCT) of testis (1) and somewhat uncommon (7%) of cases as a mixed GCT (2). Rarely tumours may be predominantly choriocarcinoma with only 5-10% identifiable other elements and present with aggressive course. Choriocarcinoma occurs exclusively in second and third decade of life (3). Our patient was 29 year old, preoperatively the diagnosis of choriocarciinoma was made with testicular swelling and raised β-HCG levels in blood. Histopathologic examination of orchiectomy specimen confirms the diagnosis of choriocarcinoma.

Choriocarcinoma spreads differently from other germ cell tumours predominantly by haematogenous route. Although retroperitoneal lymphnodes (RPLN) may be the initial site of spread. Tumour may metastasize via blood stream to lungs followed by liver and brain respectively without spread to retroperitoneum (4). Pure choriocarcinoma may present with metastatic disease and occult testicular primaries (4,5). A hemorrhagic nodule is the typical gross appearance. Because of its aggressive nature and its tendency to disseminate in a subclinical stage, it is associated with worse prognosis.

Choriocarcinoma represent a paradox in modern oncologic management in that, histologically identical tumours are found arising in the placenta (gestational choriocarcinoma) and the gonad. The former having excellent prognosis often being cured with single agent chemotherapy with methotrexate and the latter requiring intensive cisplatin based chemotherapy used for other nonseminomatus germ cell tumours. The reason for biological differences between gestational and gonadal choriocarcinoma are not known. Most commonly used combination chemotherapy (CCT) is 'BEP' regimen with Inj. Bleomycin – 30 units/IV D1, Inj. Cisplatin – 20 mg/IV D1-D3, Inj. Etoposide – 100 mg/m2 IV D1-D3.

Among all, testicular germ cell tumours are associated with worse prognosis. The presence of trophoblastic elements in the testis or high level of serum HCG (>100-500 IU/L) have proven to be poor prognostic
In addition, pure choriocarcinoma carry a worse prognosis than mixed germ cell tumour because it metastize early through both vascular and lymphatic channel with death usually occurring within a year after diagnosis (11). Choriocarcinoma are extremely haemorrhagic lesions owing to the propensity for syncytiotrophoblasts to invade and form vascular structure (4).

This case demonstrates a relatively small primary tumour with extensive metastatic lesion to lungs. Thus we have a case of rare testicular malignancy that is choriocarcinoma who presented with distant spread to lungs. But has done well after treatment with judicious combination of chemotherapeutic drugs. Management of cases of choriocarcinoma is based on cisplatin based chemotherapy rather than radiotherapy as in seminomatous tumours.

References


