Case Report

Giant mixed germ cell tumor of the testis: A rare presentation

Divya Khosla, Rohit Mahajan, Uma Handa[1], Kislay Dimri, Awadhesh K. Pandey

Departments of Radiotherapy and Oncology and [1]Pathology, Government Medical College and Hospital, Chandigarh, India

ABSTRACT

We report a rare case of a 16-year-old male who presented with a large swelling in the right lower abdomen and groin region. After investigations, the patient was diagnosed as malignant mixed germ cell tumor with lung metastasis. In view of large size of tumor, orchiectomy was not feasible and patient has been started on chemotherapy. We report this case due to its rarity and for documentation.

Key words: Chemotherapy, germ cell tumor, giant, testis

INTRODUCTION

Over 95% of testicular tumors originate from germ cells, which are further classified into seminomas and non-seminomas. Non-seminomatous germ cell tumors, include embryonal carcinoma, choriocarcinoma, teratoma, and yolk sac tumors. Mixed germ cell tumors constitute two or more histological cell types. Histologically, 59% of mixed germ cell tumors contain seminoma, 41% contain yolk sac tumor, 47% contain embryonal carcinoma and teratoma, and syncytiotrophoblastic cells are present in 42%.[1] Tumor markers are important for diagnosis, staging, prognostification, assessment of response to therapy and detection of relapse. These markers are elevated depending on the proportion of different elements present within tumor. Herein, we report a rare case of giant mixed germ cell tumor of the testis.

CASE REPORT

A 16-year-old male patient presented with 6 months history of swelling in the right lower abdomen and groin region, which was rapidly progressive. He had past history of undescended testis. On examination, there was large mass measuring 22 cm × 15 cm × 12 cm extending from right scrotal region to anterior superior iliac spine [Figure 1]. The mass was hard in consistency and overlying skin was fixed at places. Left testis was normal in consistency, while right testis was not felt separately from mass. Ultrasound scrotum revealed large heterogeneous mass in the right abdominoscrotal region with nonvisualization of right testis. Serum α-fetoprotein was more than 100,000 ng/ml, while serum β-human chorionic gonadotropin level was 10 mIU/ml. Lactate dehydrogenase was 1951 IU/l and alkaline phosphatase was 442 IU/l. Contrast enhanced computed tomography (CECT) showed a large lobulated heterogeneously enhancing mass lesion arising from right testis herniating through anterior abdominal wall and displacing urinary bladder along with presence of bulky retroperitoneal lymphadenopathy encasing vessels [Figure 2]. CECT of chest revealed bilateral lung metastasis. Fine-needle aspiration was done from the mass. The smears were cellular and showed clusters and papillary pattern of pleomorphic tumor cells with round to ovoid nuclei and vacuolated cytoplasm [Figure 3]. Based on the cytological, biochemical and radiological findings, a diagnosis of malignant mixed germ cell tumor was made. As the tumor was not amenable to surgical resection and orchiectomy was not feasible, patient has been started on chemotherapy with BEP (bleomycin, etoposide, and cisplatin) regimen and planned for re-evaluation by imaging investigations and tumor markers after 2 cycles of chemotherapy.

Access this article online

Quick Response Code:

Website: www.ccij-online.org

DOI: 10.4103/2278-0513.142704

Address for correspondence: Dr. Divya Khosla, Department of Radiotherapy and Oncology, Government Medical College and Hospital, Sector 32, Chandigarh - 160 030, India. E-mail: dr_divya_khosla@yahoo.com

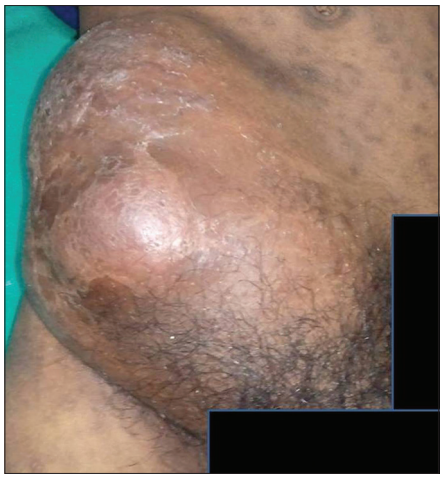

Figure 1: Photograph showing large mass in right lower abdomen and inguino-scrotal region

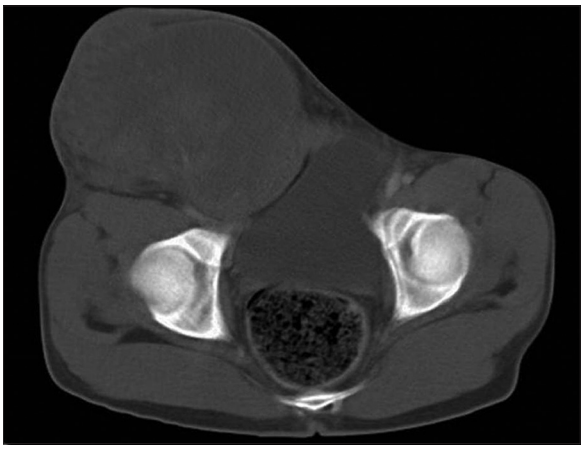

Figure 2: Contrast enhanced computed tomography showing a large lobulated heterogeneously enhancing mass lesion arising from right testis herniating through anterior abdominal wall and displacing urinary bladder

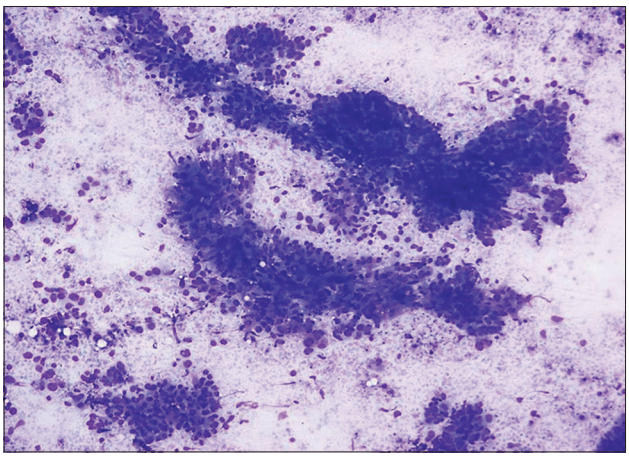

Figure 3: The smears shows sheets and papillary pattern of pleomorphic tumor cells (May-Grünwald Giemsa, ×100)

DISCUSSION

Germ cell tumors of the testis are the most common solid tumor in men between 15 and 35 years of age. Nonseminomatous germ cell tumors comprise nearly 50% of all testicular germ cell tumors. The relative risk of testicular cancer in all patients with cryptorchidism is 2.75–8 with lower risk of 2–3 in patients who undergo prepubertal orchiopexy.[2] The most characteristic presentation of a testicular germ cell tumor is a painless testicular mass. Radical inguinal orchiectomy is both diagnostic and therapeutic procedure. Surgery should always be performed first unless the clinical situation requires immediate chemotherapy.[3] In such cases, after thorough clinical examination along with serum tumor markers and appropriate imaging, initial chemotherapy can be considered. There is only handful of cases of giant testicular tumor reported in the literature.[4-9] Kin *et al*.[4] had reported two cases of giant testicular tumor. One of the patients received initial chemotherapy, followed by high orchiectomy and retroperitoneal lymph node dissection due to large tumor size of 32 cm × 28 cm × 28 cm. Tomaskovic *et al*.[5] reported a giant mixed germ cell tumor of testis in 21-year-old patient who underwent high inguinal orchiectomy followed by chemotherapy and was disease free at last follow-up. The present case was not suitable for upfront surgery in view of very large tumor size with overlying skin fixity and bulky retroperitoneal lymph nodes encasing vessels.

The testicular lump can be easily detected at an early stage through frequent self-examination. Early and prompt diagnosis could lead to detection of disease at earlier stages, thereby increasing the chance of cure and reducing mortality. Lack of health education and prevalence of socio-cultural barriers often lead to delay in seeking medical advice and the resulting delay can lead to poor outcome. Efforts should be done to increase public awareness and promote health education among men regarding the signs and symptoms of testicular tumors and importance of testicular self-examination.

CONCLUSION

The management of giant testicular tumor is challenging. Initial chemotherapy followed by surgery is a viable option for patients presenting with giant testicular tumor who are not eligible for upfront surgery.

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Cite this article as: Khosla D, Mahajan R, Handa U, Dimri K, Pandey AK. Giant mixed germ cell tumor of the testis: A rare presentation. Clin Cancer Investig J 2014;3:567-9.

Source of Support: Nil, **Conflict of Interest:** None declared.