

## Case Report

# Testicular Embryonal Cell Carcinoma Presenting as Haemoptysis and Skin Nodules

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## Abstract

Embryonal cell carcinoma affects young males in the prime of their life with majority of tumours already having metastasised at the time of diagnosis. Subcutaneous metastasis from embryonal carcinoma is rare and is associated with widespread disease and poor prognosis. We report a case of 22-year-old male who presented with haemoptysis and skin nodules. Fine needle aspiration cytology of skin nodules and the lung lesion led to the diagnosis of testicular embryonal cell carcinoma. [Indian J Chest Dis Allied Sci 2014;56:125-127]

**Key words:** Metastasis, Haemoptysis, Skin nodules, FNAC.

## Introduction

Testicular cancer is the most common cancer among males aged 15 to 35 years. The initial presentation is typically with an asymptomatic, enlarged testicle. The retro-peritoneum is the most common metastatic area. Other metastatic sites include the lung, liver, brain, adrenal glands, gastrointestinal (GI) tract and spleen. Skin metastasis is a rare event and frequently associated with poor prognosis.

We report a case of testicular embryonal cell carcinoma with metastasis to the lung, liver, brain, kidney, GI tract, spleen and skin.

## Case Report

A 22-year-old male presented with complaints of haemoptysis, multiple skin nodules and pain in the right gluteal region for two months. He had an operative history of right orchidectomy one year back for unknown reasons. No histopathological report was available.

On physical examination, the patient was anaemic, had multiple, tender, firm and fixed skin nodules over the back and forehead (Figure 1) with tenderness over the right iliac bone. He had a single left testes with scar on the right scrotum and bilateral gynecomastia. Blood investigations were within normal limits, except a haemoglobin of 6.6g%. Alpha-feto-protein levels were 1.71 IU/mL, serum lactate dehydrogenase (LDH) was 1148U/L (160 - 420) and serum beta human chorionic gonadotropin (HCG) was 4999 m IU/mL (<5.30m IU/mL). Chest radiograph (postero-anterior view) showed nodular lesions in the midzone of lung (Figure 2). Ultrasonography revealed a left-sided perinephric collection with an echogenic lesion in the spleen (? haemangioma).



Figure 1. Photograph of the patient showing metastatic skin nodule over the back.

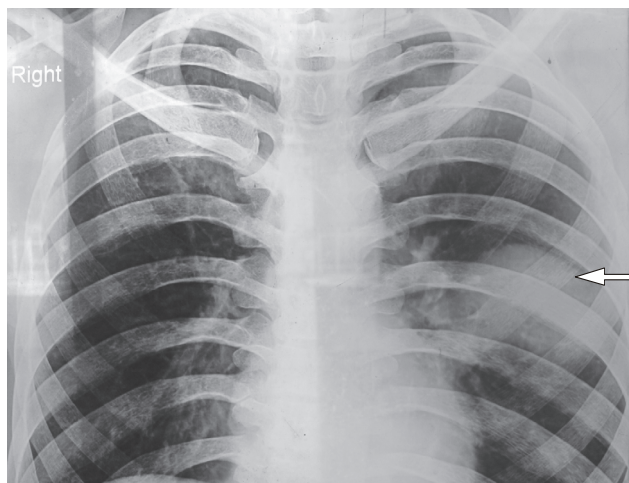


Figure 2. Chest radiograph (postero-anterior view) showing nodular lesion in the left midzone.

[Received: January 20, 2012; accepted after revision: October 12, 2012]

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Contrast enhanced computed tomography (CECT) of thorax revealed bilateral, multiple nodular lung lesions with a large nodular opacity in the left upper lobe with areas of necrosis (Figure 3). Computed tomography (CT) of the abdomen revealed hepatosplenomegaly with a space-occupying lesion in the lower pole of the spleen, multiple heterogeneous ill-defined, hypodense lesions in both the lobes of the liver, a space-occupying lesion in the lower pole of the left kidney with perinephric collection, a small mass in the body of the pancreas and lytic lesions in the right iliac bone and L2 vertebra (Figure 4).

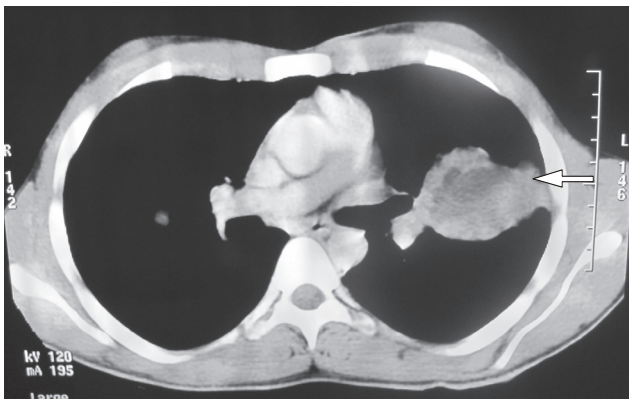


Figure 3. Contrast enhanced computed tomography (CECT) of thorax showing a large nodular opacity in the left upper lobe with areas of necrosis.

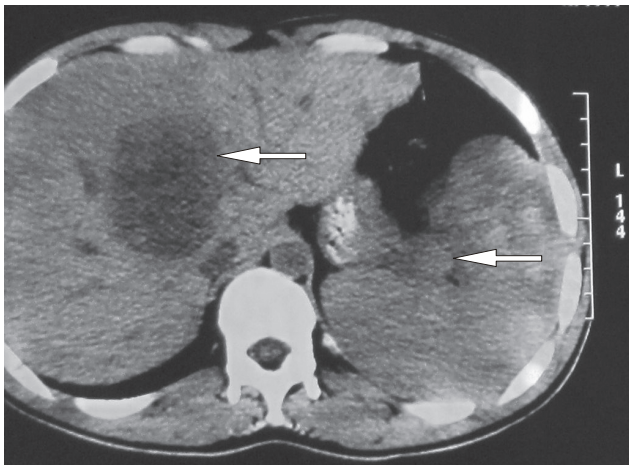


Figure 4. CECT abdomen showing hepatosplenomegaly with a space occupying lesion in the lower pole of spleen and multiple heterogeneous ill-defined hypodense lesions in the liver.

The CT of the head revealed lytic lesions in the right frontal and left occipital bones (Figure 5). Fine needle aspiration cytology (FNAC) of the skin nodules and CT-guided FNAC of the lung confirmed the diagnosis of a metastatic embryonal cell carcinoma. The patient referred to Medical Oncology, where he was given PEB regimen (cisplatin, etoposide, bleomycin), and followed-up for six months after which he was lost to follow-up. The skin nodules did

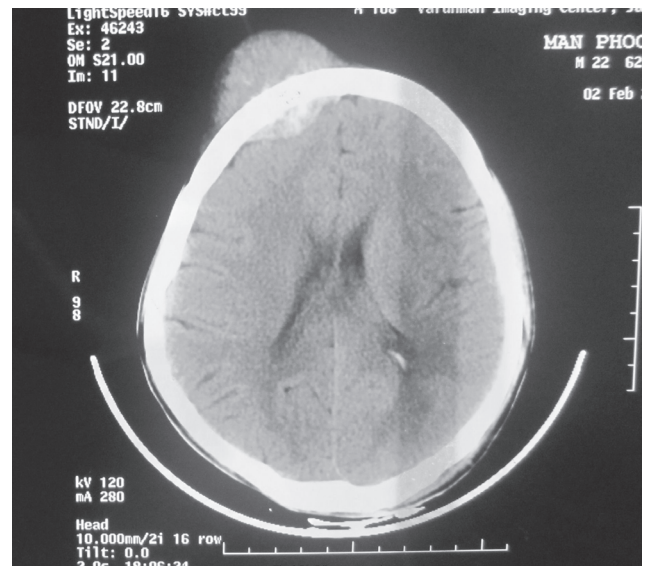


Figure 5. CECT head showing lytic lesions in the right frontal bone.

regress to some extent and there was no further episode of haemoptysis.

## Discussion

Testicular tumours constitute only a small proportion (0.5% to 2%) of all malignant tumours in males.<sup>1</sup> However, in those between the age of 29 to 35 years, these are the most common occurring neoplasms, and account for 11.4% of the cancer deaths.<sup>2</sup> More than 90% of all testicular tumours are malignant and in most cases, the presenting symptom is a mass or a swelling in the testis.<sup>3</sup> Although testicular cancer may be derived from any cell type found in the testicles, more than 95% of the cancers are germ-cell tumours (GCTs). Most of the remaining are sex cord-gonadal stromal tumours derived from Leydig cells or Sertoli cells. Among patients with embryonal carcinoma, over 80% are diagnosed in the 15 to 34 years age group. Seventy-four percent of the patients had metastatic disease at the time of diagnosis, and 50% of these have distant metastases, attesting to the aggressive nature of embryonal carcinoma and its tendency for early hematogenous spread. Brain metastasis from GCTs have been reported to be rare, occurring in about 4% of progressive testicular GCTs.<sup>4</sup>

Cutaneous metastasis as the first sign of metastatic choriocarcinoma may be either an occult or a slow growing primary testis GCTs.<sup>5,6</sup> Cutaneous metastases of the genitor-urinary malignant neoplasms are often related to advanced local extension, disseminated metastasis and poor prognosis. Chuang *et al* describe a case of testicular GCT with skin metastases at the initial presentation. Other metastatic features are breast enlargement (gynecomastia) from hormonal effects of beta-hCG, low back pain, shortness of breath, cough or haemoptysis from metastatic spread to the lungs.<sup>8</sup>

In the present case, haemoptysis and multiple cutaneous metastatic nodules over back and forehead were present along with gynecomastia and back pain. The extent of the disease is evaluated by CT scans, that are used to locate metastases. Blood tests are also used to identify and measure tumour markers that are specific to testicular cancer. Alpha-1-feto protein, beta-HCG, and LDH are the typical markers used to identify testicular cancer. The diagnosis is made on histopathological examination on performing an inguinal orchidectomy, a surgical excision of the entire testis along with attached structures epididymis and spermatic cord. A biopsy should not be performed, as it carries a risk of migration of cancer cells into the scrotum.

In the present case, blood investigation revealed increased levels of beta-HCG and serum LDH, while the CT of head, chest and abdomen revealed metastases in brain, lung, liver, kidney, spleen, pancreas, vertebra and iliac bone. As the patient had an operative history of orchidectomy, FNAC of lung mass and skin nodule established the diagnosis.

Despite the highly malignant nature of the tumour, the overall 5-year survival rate with chemotherapy is excellent (upto 88%). Survival is correlated with the extent of the disease at the time of diagnosis; the 5-year survival rates for patients with localised, regional, and distant disease are 98%, 96%, and 74%, respectively. The role of surgery in patients with pulmonary metastatic GCTs has been evolving since 1970s. The GCTs are highly curable when treated appropriately.<sup>9</sup> The majority of GCTs arise in the testis, with a proportion having pulmonary parenchymal or mediastinal metastases. With current chemotherapy regimens, almost 85% of the patients with testicular GCTs undergoing complete resection of their pulmonary metastases can be expected to achieve long-term survival.<sup>10</sup>

In conclusion, although testicular tumours constitute only a small proportion of all malignant tumours in males, these are very aggressive and metastasise rapidly. In testicular embryonal cell carcinoma, early diagnosis and management can change the overall survival.

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