Metastatic Tumour in Lung from Primary Testicular Cancer



Ref.no.: MP2055

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MEDICAL

Metastatic Tumour in Lung from Primary Testicular Cancer

Clinical History

A 37-year old male patient presents with a 1-month history of lethargy, cough and weight loss. He had a history of an orchiectomy 18 months previous for a testicular tumour. Then 12 months post-op he underwent neck radiotherapy to treat metastasis. On admission, he became acutely dyspnoeic and hypoxic and died.



Pathology

This right lung specimen (and portions of 4 ribs) has been sliced longitudinally. There are numerous rounded tumour nodules evident in the lung parenchyma ranging from 5 to 30mm in diameter. The tumours are variegated in appearance with pale yellow and dark brown cut surfaces. One tumour is extending along the bronchus of the lower lobe forming a cast. Several nodules project from the pleural surface and some show central umbilication from necrosis and haemorrhage. This is an example of pulmonary metastases from a mixed germ cell testicular tumour, most likely choriocarcinoma arising in a malignant teratoma.



Further Information

Germ cell testicular tumours (GCT) are the most common tumours found in men. Average age of diagnosis is 30 year of age and are rarely diagnosed pre-puberty. Risk factors for development include cryptorchidism and a positive family history of GCT. Familial GCT increased risk can be linked to genes encoding for kinases, e.g. KIT and BAK.

They can be divided into two groups: seminomatous (resemble primordial germ cells) and non-seminomatous (resemble embryonic stem cells). Over one third of GCT are mixed GCT, with two or more GCT types in one mass. Many possible combinations of seminoma, teratoma, embryonal carcinoma, yolk sac tumor, and choriocarcinoma can be seen. Teratomas components are found in one third of mixed GCT. Elevated serum Alpha Fetoprotein and beta-hCG are produced by choriocarcinoma. Lymphatic spread involves the retroperitoneal para aortic nodes initially. Mediastinal and supraclavicular nodes may later become involved. The lungs are the most common site for haematogenous spread but the liver, brain or bones may also be affected.



Symptoms may include a painless testicular mass and haematospermia. Later symptoms of distant metastases may occur. Common symptoms of lung metastases include cough, dyspnoea, haemoptysis, recurrent infection

Treatment depends on clinical stage but usually involves radical orchiectomy, chemotherapy and sometimes radiotherapy. More than 95% on early stage GCT can be cured.

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