Pulmonary cannonballs and more like never before
Mohammed H AlShati

CASE
A 44-year-old man presented to hospital with haemoptysis and progressive dyspnoea. Examination revealed room air oxygen saturation of 91% with diffuse chest crackles, gynaecomastia and hepatosplenomegaly. Scrotal examination was unremarkable. Radiological investigations revealed numerous bilateral pulmonary nodules of variable size (cannonball appearance) (figure 1), gynaecomastia (figure 2A), hepatosplenomegaly and a large retroperitoneal mass (figure 2B). Scrotal ultrasound showed no abnormalities.

Simple urine pregnancy testing was positive, and serum levels of β-human chorionic gonadotropin (β-HCG) and α-fetoprotein were markedly elevated. Transbronchial and retroperitoneal biopsies confirmed the diagnosis of metastatic extragonadal choriocarcinoma and prompt chemotherapy was initiated; however, the patient died shortly thereafter from respiratory failure.

Competing interests None.
Patient consent Obtained.
Provenance and peer review Not commissioned; internally peer reviewed.
Learning points

▸ Choriocarcinoma is a malignant germ cell tumour that usually arises from the gonads and secretes the tumour marker β-HCG. Extragonadal sites of origin are less common and occur mainly along the embryonal midline axis, which includes the prostate, urinary bladder, retroperitoneum, mediastinum and pineal body.

▸ The lung is a common metastatic destination for choriocarcinoma. Other differential diagnoses for cannonballs include various infections (septic emboli, multiple abscesses, tuberculosis, nocardia, histoplasmosis, coccidioidomycosis and hydatid cysts); rheumatological diseases (Wegener’s granulomatosis, rheumatoid nodules); arteriovenous malformations; and other malignant secondaries (lung, breast, kidney, head and neck, gut and sarcoma).

▸ Urine pregnancy testing, a simple and quick method, can be very useful in providing a clue to the diagnosis.1

▸ Definite diagnosis is made by biopsy, which demonstrates dual population of malignant cells (cytotrophoblasts and syncytiotrophoblasts), with positive staining for β-HCG immunoperoxidase.

▸ Germ cell tumours are sensitive to chemotherapy, thus urgent treatment is essential.

▸ Despite available treatment options of chemotherapy, radiotherapy and surgical resection, prognosis is usually poor in patients with far-advanced widespread disease.2

▸ Non-pulmonary visceral metastasis and marked elevation of tumour markers are considered as poor prognostic features.2

REFERENCES


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