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CASE REPORT

Association of testicular neoplasia and sarcoidosis

A. El-Gammal[a,*], M. O'Keefe[b], M. O'Driscoll[c], S. O'Reilly[b], T.M. O'Connor[a]

[a]*Department of Respiratory Medicine, Mercy University Hospital, Grenville Place, Cork, Ireland*
[b]*Department of Oncology, Mercy University Hospital, Grenville Place, Cork, Ireland*
[c]*Department of Radiology, Mercy University Hospital, Grenville Place, Cork, Ireland*

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Summary
In this report, we highlight the association of sarcoidosis and testicular cancer in 3 patients and comment on the potential impact of this association on the interpretation of the radiological and pathological findings in suspected cancer. Sarcoidosis, a condition that can coexist with testicular cancer, should always be considered in the differential diagnosis of suspected metastases, particularly as intrathoracic lymphadenopathy may be assumed to represent metastatic disease, which can have radical implications for patient therapy.

Introduction

In patients with malignant disease, the presence of mediastinal lymphadenopathy is often suggestive of and may be assumed to indicate metastasis. However, mediastinal lymphadenopathy may also be caused by other disease, including sarcoidosis, lymphoma and tuberculosis.

Sarcoidosis is a chronic granulomatous disease of unknown aetiology characterised by the presence of non-caseating granulomas in involved tissues. It can involve almost any tissue in the body, but the most-frequently involved sites of disease are the mediastinal and hilar lymph nodes. The majority of patients are asymptomatic and spontaneous resolution is frequently seen within 2 years.[1]

Sarcoidosis can imitate other disorders, especially malignant diseases and conversely, local sarcoid-like reactions have been observed in cancer disorders.[2] The relationship between sarcoidosis and malignant disease remains controversial. Several cases of coexistent testicular cancer have been reported.[3] This report describes 3 patients who had seminomatous and non-seminomatous germ cell tumours and sarcoidosis diagnosed simultaneously.

Case reports

Case 1

A 42-year-old male presented with a 7-month history of right testicular pain and swelling. He reported a 2-year history of

*Corresponding author. Tel.: +353 21 4935325; fax: +353 21 4935350.
E-mail address: el_gammalamani@yahoo.com (A. El-Gammal).

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exertional dyspnoea and cough. Physical examination revealed a firm enlarged right testis, with no detectable inguinal lymphadenopathy. A tumour mass was confirmed by ultrasonography. Serum β-human chorionic gonadotropin (βHCG) and α-fetoprotein (αFP) were within normal range. Right radical orchidectomy revealed seminoma that was confined to the testicular capsule.

Chest radiograph and thoracic and abdominal computerised tomography (CT) demonstrated extensive mediastinal lymphadenopathy with bilateral perihilar parenchymal opacification (Figures 1A–C). There was no evidence of retroperitoneal or intra-pelvic lymphadenopathy. Transbronchial biopsy demonstrated non-caseating epithelioid granulomas consistent with a diagnosis of sarcoidosis. Pulmonary function testing demonstrated a restrictive defect (FVC 64.3% predicted, FEV_1 63.9% predicted) with decreased lung volumes (RV 12% predicted) and transfer factor for carbon monoxide (66.9% predicted). Serum angiotensin converting enzyme (ACE) was elevated at 66 U/L (normal range, 0–45 U/L). Stage I seminoma with concurrent sarcoidosis was diagnosed and the patient was referred for adjuvant chemotherapy (2 cycles carboplatin) as an alternative to radiotherapy 2-months post-surgery.

Six months later he developed a left-sided supraclavicular mass. CT of the neck showed a 2.5 cm left supraclavicular cystic lesion. Biopsy demonstrated tissue consistent with seminoma. He was treated with 3-courses of vinblastine, ifosfamide and cisplatin. The previously noted mediastinal adenopathy remained unchanged on serial imaging despite persistent deterioration in spirometry and total lung capacity. The patient was started on prednisolone 40 mg daily that was tapered over subsequent weeks. Three months later, the patient was asymptomatic. Repeat CT thorax and pulmonary function tests showed significant improvement.

Case 2

A 25-year-old male presented with left-sided cervical lymphadenopathy (Figure 2A), left-sided Horner syndrome (ptosis, miosis and anhydrosis) (Figure 2B), abdominal pain and a necrotic testicular mass on ultrasonic examination. β-HCG was 469 mU/mL (normal <5 mU/mL), αFP was 2166 μg/L (normal $<13.4\,\mu$g/L) and lactate dehydrogenase was 1186 IU/L (normal range, 125–243 IU/L). Supraclavicular node biopsy revealed non-seminomatous germ cell tumour.

Chest radiograph and CT thorax and abdomen showed extensive mediastinal lymphadenopathy with right hilar and

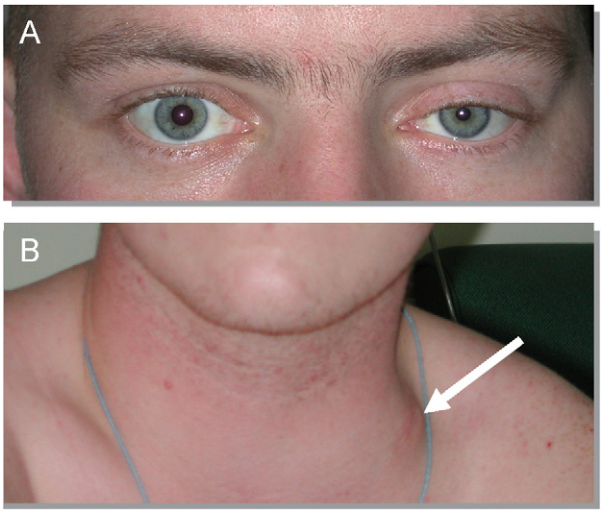

Figure 2 Left-sided Horner's syndrome (A) (partial ptosis, miosis and enophthalmus) and left supraclavicular mass (B, arrow).

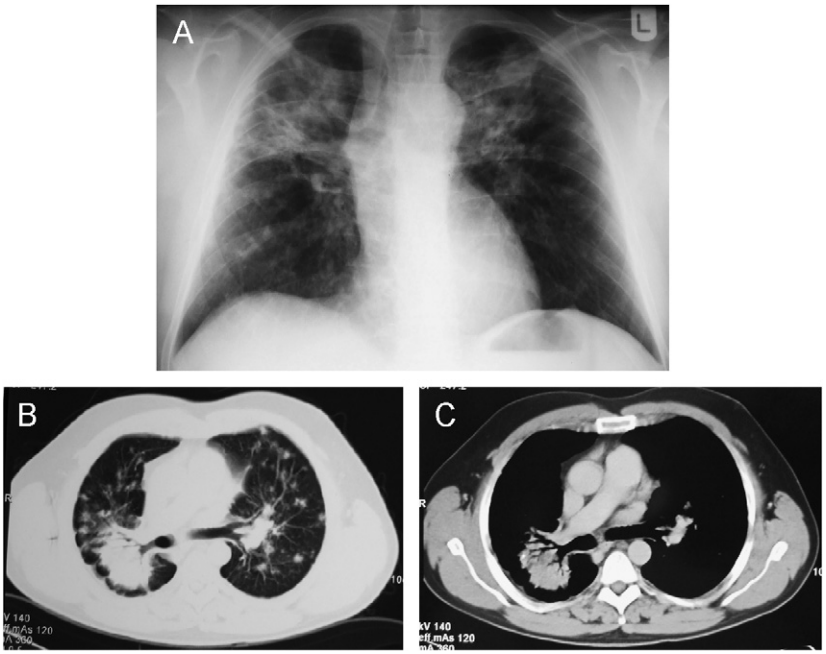

Figure 1 (A) Chest radiograph demonstrating volume loss with pulmonary infiltrates in the mid and upper zones. (B) and (C) CT thorax demonstrating bilateral perihilar parenchymal opacification and consolidation with associated mediastinal lymphadenopathy.