# TB or not TB: a diagnostic dilemma

A 43-year-old Nepalese Gurkha presented to accident and emergency with dyspnoea and abdominal discomfort. He gave a 4-month history of dry cough and weight loss. As a solider he had spent 7 years in the Far East, living and working in barrack conditions. He did not smoke. His father had been treated for tuberculosis (TB) several years previously.

Examination revealed decreased air entry and crepitations at the lung bases. Oxygen saturations on air were initially low at 94%, falling to 88% later in the day.

Blood tests were initially unremarkable except for a high C-reactive protein (peak of 414 mg/litre) and white cell count of $13.4x10^9$/litre. Initially apyrexial, he developed a fever of 38°C 2 days after admission. Chest radiography showed numerous small nodules throughout both lung fields, consolidation of the right lower and middle lobes, and a right pleural effusion (*Figure 1*). Appearances were reported as characteristic of miliary tuberculosis. Tazocin was immediately commenced with antituberculous therapy added 2 days later.

A computed tomography scan of the head was requested for severe headache, but was reported as normal.

Because of persistent abdominal pain a liver ultrasound was obtained. This showed a number of lesions consistent with tubercular abscesses but which could also represent metastases. Computed tomography scanning of the thorax confirmed multiple micronodular changes throughout both lungs. No endobronchial lesion was demonstrated. An 18 mm pre-aortic node was seen but there was no enlargement of mediastinal, hilar or axillary lymph nodes.

***Figure 1. Chest radiograph showing a diffuse nodular pattern throughout both lungs.***

Subsequent liver biopsy indicated metastatic adenocarcinoma. Immunohistochemical testing suggested a probable pulmonary origin, although computed tomography scans of the thorax did not identify an obvious primary. Re-examination of the computed tomography scan of the head revealed small meningeal metastatic deposits. Palliative chemotherapy was substituted for the antituberculous drugs. The patient left hospital following his first cycle, but was re-admitted 2 weeks later with a large pulmonary embolism.

The patient's chest radiograph, ethnic origin, family history and occupational background suggested miliary tuberculosis. The radiographic appearances were in fact those of lymphangitis carcinomatosis. The disseminated 'nodular' appearance resulting from haematogenous spread to the lungs, with subsequent lymphatic and interstitial involvement. Less commonly lymphangitis carcinomatosis may result from direct invasion and radiologically may manifest as nodular septal thickening (one of the causes of a reticular-nodular pattern). Both types of metastatic spread are usually the result of adenocarcinomas. BJHM

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