Case Report

Giant Cell Arteritis can be Associated with T4-Lymphocytic Alveolitis

D. Blockmans, D. Knockaert and H. Bobbaers

Department of General Internal Medicine, University Hospital Gasthuisberg, Leuven, Belgium

Abstract: We describe three patients with histologically proven giant cell arteritis who presented with respiratory complaints. In one patient, dry cough and dyspnoea dominated the clinical picture. In the other two patients, a diagnosis of giant cell arteritis was readily suspected by the presence of typical complaints, although both patients spontaneously mentioned a persistent cough and dyspnoea, respectively. Radiographs of the chest were normal. Lung function tests, including a carbon monoxide (CO)-diffusion capacity measurement, were always normal. Broncho-alveolar lavage fluid examination showed a normal cell count but an increased number of lymphocytes (16–61%) with a predominance of T4-lymphocytes (65.5–84.5 %). We conclude that respiratory complaints and T4-lymphocytic alveolitis can be associated with giant cell arteritis.

Keywords: Alveolitis; Giant cell arteritis; Vasculitis

Introduction

When typical symptoms such as headache, jaw claudication, visual disturbances, fatigue, weight loss or polymyalgia develop in an elderly person, a diagnosis of giant cell arteritis is easily confirmed by a temporal artery biopsy [1]. Extracranial vessels, such as the coronary arteries, the aortic arch or the renal arteries may be involved in the vasculitic process [2–4]. Involvement of the respiratory tract has rarely been reported [5–7]. When respiratory symptoms such as dyspnoea or coughing dominate the clinical picture, the exact diagnosis may be reached with much more difficulty.

We present here three patients with biopsy-proven giant cell arteritis and prominent respiratory symptoms, based on a T4-lymphocytic alveolitis. None of the patients smoked or was known to have chronic obstructive lung disease.

Case Reports

Case 1

A 64-year old female patient was admitted to the hospital with a persistent cough, rare white sputa, dyspnoea stage III and even orthopnoea for 6 months. She also complained of fatigue, anorexia, subfebrillitas (\(\leq 38.3^\circ\mathrm{C}\)), symmetrical arthralgias of the major joints and pain and stiffness in the pelvic and shoulder girdle. The past medical history encompassed an appendectomy, a tumorectomy of the left breast, an IgA nephritis, a nitrofurantoin-induced hepatitis, an autoimmune thyroiditis and osteoarthritis. On physical examination, we saw a pale patient with a temperature of 37.8°C, lung auscultation was normal, there were Heberden nodules on both hands and restricted mobilisation of the right shoulder. The erythrocyte sedimentation rate (ESR) was 104 mm/h, C-reactive protein (CRP) 172 mg/l (normal \(< 5\) mg/l), haemoglobin 9.8 g/dl (normal values 12–16 g/dl), the platelet count \(549 \times 10^9\) (normal: 140–400 \(\times 10^9\)) and gamma-GT 41 U/l (normal: 7–32); the other liver function tests were normal. Antinuclear factor (ANF), antineutrophil cytoplasmic antibodies (ANCA), antithyroid antibodies, rheumatoid factor (RF) and antibodies against \textit{Mycoplasma pneumoniae} were negative. There was no complement consumption. A chest radiograph was normal (Fig. 1) and a high-resolution
computed tomographic (CT) scan showed a limited inhomogeneous consolidation zone in the right lower lobe, probably as a result of a former infection (Fig. 2). Lung function tests were normal (vital capacity of 2.74 litres or 116% of the predicted value, forced expiratory volume in 1 s of 1.86 litres (95%), total lung capacity of 5.37 litres (119%), TLco of 6.13 mmol/min/kPa (89%) and Kco of 1.40 mmol/min/kPa/l or 89%). A bronchoscopy was macroscopically normal, as were abdominal sonography, mammography, electromyography of the four limbs, echocardiography and ventilation/perfusion scintigraphy. A radiograph of the shoulders showed rotator cuff calcifications on the right side and a radiograph of the hands showed signs of osteoarthrosis. Gallium scintigraphy revealed pathological tracer uptake in both lung hili and in the right shoulder. Examination of the broncho-alveolar lavage fluid showed 4.4 × 10⁶ cells in 35 ml of supernatant, with a predominance of lymphocytes (61%), most of which were T4-lymphocytes (Table 1). A temporal artery biopsy showed frank giant cell arteritis with disruption of the internal elastic membrane and a transmural inflammatory infiltrate. Treatment with steroids (methylprednisolone 32 mg/day) was started with prompt improvement and disappearance of the pulmonary and other symptoms in a few days.

Case 2
A 64-year-old female patient was admitted to the hospital with fever up to 39.8°C for 1 month, dyspnoea, muscular pains and stiffness in the neck and pelvic girdle. Forty years ago, she had experienced an episode of acute rheumatic fever and there was a history of skin allergy and chronic articular pain. On clinical examination, there were some discrete basal crepitations on lung auscultation; no other abnormalities were noted. The ESR was 50 mm/1 h, haemoglobin 11.4 g/dl and platelet count 786 × 10⁹/l. RF and ANF were negative. A chest radiograph showed some post-infectious sequelae and moderate cardiomegaly. Lung function tests, including the carbon monoxide (CO) diffusion capacity, were normal. Bronchoscopy was macroscopically normal and bronchial lavage fluid examination showed 84% macrophages and 16% lymphocytes with 65.5% T4 cells (Table 1). There was a slight hilar tracer uptake on gallium scintigraphy. Temporal artery biopsy showed inflammation, consistent with giant cell arteritis. Steroid therapy was successfully started.

Case 3
A 68-year-old male patient with a medical history of a myocardial infarction 5 years previously came to the hospital for prolonged coughing, white sputa and fever.