Interstitial lung pathology: Should we test for autoantibodies to cellular antigens?

Sirs,

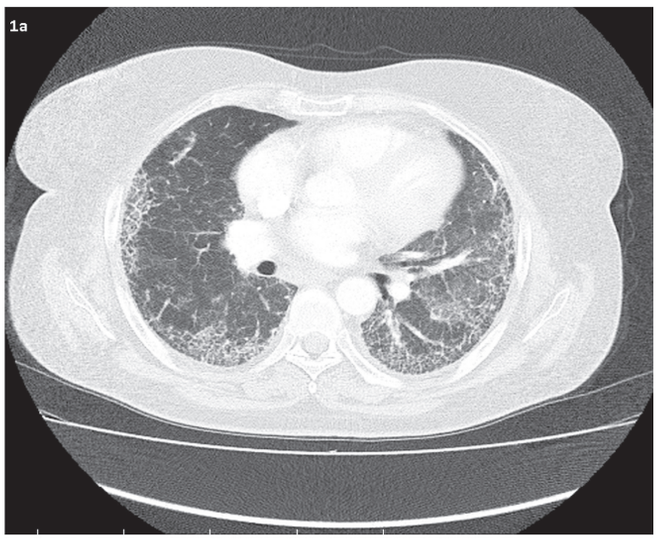
The goal of this letter is to re-emphasise with two cases, how important is to test for autoantibodies to cellular components in patients presenting with the sole manifestation of interstitial lung disease (1).

Case 1. A 53-year-old woman was referred to us with generalised arthralgias and progressively worsening shortness of breath. On clinical examination, puffy hands in association with periungual telangiectasias were seen and telo-inspiratory crackles on both lung bases were audible on auscultation. Arterial blood gases on room air showed oxygen saturation 92%, pH: 7.45, pCO2: 32mmHg, pO2: 62mmHg, HCO3: 24 mmol/l. High resolution chest CT scan was done (Fig. 1a). Cultures of the bronchial secretions and cytology were negative.

Serum antinuclear antibodies were positive at 1/160 titre, cytoplasmic pattern, and an immunoblot panel for myositis-specific autoantibodies (Euroimmune Euroline autoimmune inflammatory myopathies kit) revealed autoantibodies to Signal Recognition Particle (anti-SRP). On the basis of clinical findings, imaging and serum autoantibodies the patient was started on monthly infusions of methylprednisolone (1gm) and cyclophosphamide (1gm/m^2 body surface). After three cycles of treatment, the patient's symptoms and the duration of oxygen dependency during the date improved and the arterial blood gases showed a further improvement. Arterial blood gases on room air showed oxygen saturation 96%, pH: 7.47, pCO2: 32 mmHg, pO2: 76 mmHg and HCO3: 24.7 mmol/l. After 6 months of treatment her CT imaging did not deteriorate further and the areas of ground glass opacities on the left lung have improved (Fig. 1b).

Case 2. A 61-year-old woman presented with shortness of breath on exertion 9 months before the current admission. She had no history of Raynaud's phenomenon, arthralgias or arthritis, muscle pains and aches. Three months ago she had noted worsening of dyspnea and developed fevers. She was admitted to another hospital, where a chest x-ray was reported to show bilateral areas of consolidation, while chest CT showed multifocal areas of peripheral and peri-bronchovascular ground-glass opacities with small areas of consolidation. There were also mild bronchiectasis and sub-pleural reticulation, features consistent with Cryptogenic Organising Pneumonia. A transbronchial biopsy of the lung, was performed which showed a mixed inflammatory pattern consistent with Bronchiolitis Obliterans Organizing Pneumonia (BOOP) and non-specific interstitial pneumonitis (NSIP). On the basis of these findings she was initiated on intravenous treatment with 1 gm methylprednisolone daily for 3 days. Since patient's symptomatology did not subside, she was admitted to our department. Physical examination revealed a Cushingoid woman. Rales were audible bilaterally on the chest. Rest of physical examination was unrevealing. Laboratory tests showed leukocytosis (WBC 12x10^3/l), elevated serum C-reactive protein (32 mg/l, n.v. <6 mg/l), ANA strongly positive (titre 1/1280, cytoplasmic pattern). Further autoantibody analysis revealed the presence of anti-Ro 52, anti-threonyl-tRNA synthetase (anti-PL12) and anti- SRP autoantibodies. On the basis of the above findings the patient was started on monthly infusion pulses of cyclophosphamide 1 gm/m^2 and methylprednisolone 1 gm. After three months' treatment the clinical, functional and radiologic picture of the patient showed significant improvement.

The presentation of both cases highlights the importance of testing the serum autoantibody profile in patients presenting with interstitial lung pathology, the presence of which may offer to the patient the benefit of immunosuppressive therapy (2, 3). Both of our patients had serology which has been seen in patients with idiopathic inflammatory myositis (4, 5), and could have been misdiagnosed without the search for specific autoantibodies. Both autoantibodies to anti-PL-12 and anti-SRP have been described in amyopathic patients with lung pathology (6,7). Furthermore the coexistence of anti-SRP and anti PL-12 antibodies has been reported, even though they do not co-exist frequently (8, 9). Moreover, anti-Ro-52 reactivity, which was found in one of our patients, is detected in approximately 30% of the patients with anti-synthetase syndrome and may be related to ILD (10, 11).



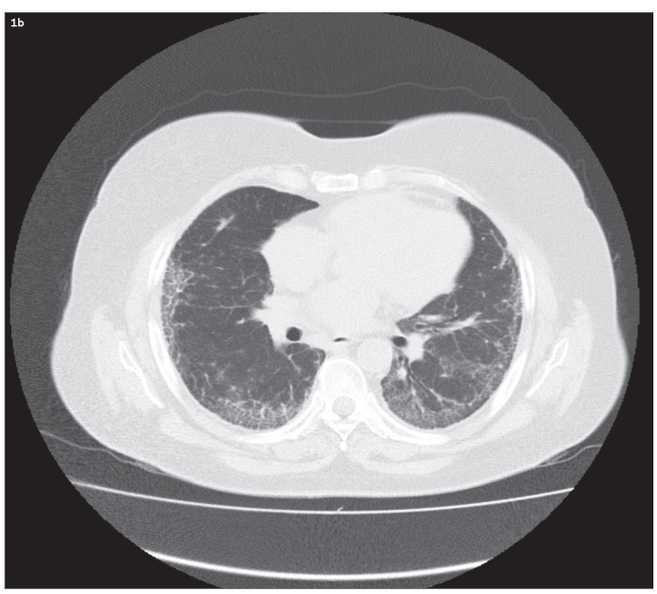


Fig. 1. High resolution Chest CT showed ground-glass attenuation, mainly on the left lung, which is not the dominant pattern in comparison with the reticular changes. There are few cysts only. The honeycombing pattern showed sub-pleural sparing with prominent reticular changes.
The CT changes were compatible with possible usual interstitial pneumonia (**a**).
Six months later the ground glass opacities on the left lung have improved (**b**).

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