CASE REPORT

Lymphocytic interstitial pneumonia associated with common variable immunodeficiency resolved with intravenous immunoglobulins

N Arish, R Eldor, Y Fellig, N Bogot, U Laxer, U Izhar, A Rokach

Lymphocytic interstitial pneumonia (LIP) is a rare form of interstitial lung disease. A few case reports have described an association with common variable immunodeficiency (CVID). Corticosteroids are usually used to treat symptomatic patients but their efficacy has never been studied in a controlled trial. We describe a patient with LIP and CVID who was treated monthly with intravenous immunoglobulins (IVIG) without steroids. The patient improved dramatically. We believe that, in selected cases of LIP and immunodeficiency, IVIG given monthly should be considered as the only treatment without adding steroids.

A 66 year old woman was admitted to the internal medicine ward for evaluation of worsening dyspnoea, fever, and productive cough. An antibiotic trial with amoxycillin-clavulanic acid and roxithromycin given by the family physician did not help. One year before admission the patient developed recurrent episodes of sinusitis, pneumonia, and bronchitis. A work-up done by the family physician revealed no clinical signs of Sjögren’s syndrome or other autoimmune diseases. The saturation was 94% and the lungs were clear. A diagnosis of lymphoma, was excluded. The patient was treated with prolonged courses of corticosteroids which may control the process or induce remission. Popa et al described two patients with LIP associated with CVID who were treated with IVIG, both of whom died after severe infections. They did not find evidence to support this approach. The risk of severe infections and side effects of steroids made this treatment unfavourable. Treatment was therefore started with IVIG 0.5 mg/kg monthly. Seventeen months after the diagnosis the patient improved dramatically. She had only one episode of pneumonia compared with five episodes during the previous year. The chronic cough and dyspnoea resolved and PaO2 rose from 9.47 kPa (71 mm Hg) before the diagnosis to 11.87 kPa (89 mm Hg). The A–a gradient fell from 26 mm Hg before the diagnosis to a normal level (7 mm Hg). Pulmonary function tests remained normal and the CT scan showed partial resolution of the findings (fig 1A–D).

DISCUSSION

We describe a patient suffering from CVID and LIP. Monoclonality in the cell populations, which would support a diagnosis of lymphoma, was excluded. The patient was treated with IVIG without steroids.

The optimal treatment for LIP is not well established and there are no controlled trials. However, most patients are treated with prolonged courses of corticosteroids which may control the process or induce remission. The mixture of B and T cells combined with the cell rearrangement excluded monoclonality. The mixture of B and T cells combined with the cell rearrangement excluded the diagnosis of lymphoma.

Treatment with corticosteroids was considered but we could not find evidence to support this approach. The risk of severe infections and side effects of steroids made this treatment unfavourable. Treatment was therefore started with IVIG 0.5 mg/kg monthly. Seventeen months after the diagnosis the patient improved dramatically. She had only one episode of pneumonia compared with five episodes during the previous year. The chronic cough and dyspnoea resolved and PaO2 rose from 9.47 kPa (71 mm Hg) before the diagnosis to 11.87 kPa (89 mm Hg). The A–a gradient fell from 26 mm Hg before the diagnosis to a normal level (7 mm Hg). Pulmonary function tests remained normal and the CT scan showed partial resolution of the findings (fig 1A–D).

Abbreviations: BOOP, bronchiolitis obliterans organising pneumonia; CVID, common variable immunodeficiency; IVIG, intravenous immunoglobulins; LIP, lymphocytic interstitial pneumonia.
also described patients with other forms of interstitial lung disease who improved after treatment with IVIG. De Gracia et al. used IVIG to treat 24 patients diagnosed with CVID; patients suffering from chronic lung disease showed improvement with this treatment.

Our patient showed significant improvement following treatment with IVIG. The mechanism behind the effect of IVIG is not known. We speculate that recurrent infections cause a chronic inflammatory process which continues as a result of immunoglobulin deficiency. There is a possibility that replacement therapy with immunoglobulins might prevent infections, decrease the exposure to antigens, and stop the inflammatory process. Another possibility is immunomodulation by changing the CD4/CD8 ratio in the lung interstitium.

We believe that, in patients with LIP and immunodeficiency, IVIG given monthly without steroids may be a preferred treatment option. Steroids have severe side effects and might expose these patients to infections. They should only be considered when the patient shows clinical and radiological progression of the interstitial lung disease.

Authors’ affiliations
N Arish, R Eldor, Department of Medicine C, Hadassah-Hebrew University Medical Center, Jerusalem, Israel
Y Fellig, Department of Pathology, Hadassah-Hebrew University Medical Center, Jerusalem, Israel
N Bogot, Institute of Radiology, Hadassah-Hebrew University Medical Center, Jerusalem, Israel
U Laxer, A Rokach, Institute of Pulmonology, Hadassah-Hebrew University Medical Center, Jerusalem, Israel
U Izhar, Department of Cardiothoracic Surgery, Hadassah-Hebrew University Medical Center, Jerusalem, Israel

Competing interests: none.

Correspondence to: Dr A Rokach, Institute of Pulmonology, Hadassah-Hebrew University Medical Center, P O Box 12000, Jerusalem, Israel 91120; arielr@hadassah.org.il

Received 8 June 2004
Accepted 14 December 2004

REFERENCES
Lymphocytic interstitial pneumonia associated with common variable immunodeficiency resolved with intravenous immunoglobulins

N Arish, R Eldor, Y Fellig, N Bogot, U Laxer, U Izhar and A Rokach

Thorax 2006 61: 1096-1097
doi: 10.1136/thx.2004.029819