PL-7 Positive Antisynthetase Syndrome and Pulmonary Hypertension

VASILE FORIS, GABOR KOVACS, MARCO MATUCCI-CERINIC and HORST OLSCHEWSKI

J Rheumatol 2013;40;1777-1779
http://www.jrheum.org/content/40/10/1777

1. Sign up for TOCs and other alerts
   http://www.jrheum.org/alerts

2. Information on Subscriptions
   http://jrheum.com/faq

3. Information on permissions/orders of reprints
   http://jrheum.com/reprints_permissions

*The Journal of Rheumatology* is a monthly international serial edited by Earl D. Silverman featuring research articles on clinical subjects from scientists working in rheumatology and related fields.
**PL-7 Positive Antisynthetase Syndrome and Pulmonary Hypertension**

To the Editor:

Antisynthetase syndrome is characterized by interstitial lung disease (ILD), myositis, arthopathy, fever, Raynaud phenomenon, and mechanic’s hands. The morbidity of the syndrome is usually due to lung involvement.

In January 2005, a 65-year-old female nonsmoking patient presented to our outpatient clinic with fever (38.5°C), unproductive cough, shortness of breath, dry throat, nocturnal sweating, and weight loss (3-4 kg). Previously, she was exposed to passive cigarette smoke and cleaning chemicals. Essential hypertension treated by bisoprolol and an allergy to contrast dye was given longterm oxygen therapy (1 l/min), spironolactone (25 mg), and prednisolone (20 mg every other day), longterm oxygen therapy, and physiotherapy. After the fourth year of followup the patient presented with arthritis urica, which was limited to the first digit of the right foot. Gaenslen sign was positive, but there were no other signs of arthritis or Raynaud phenomenon. Pulmonary embolism was ruled out by CT angiography and ventilation-perfusion scan. CK was in the normal range, and radiograph (Figure 1B), pulmonary function tests, lung scintigraphy, and polysomnography were unchanged while pulmonary hemodynamics were significantly deteriorated and right heart catheterization confirmed manifest pulmonary hypertension (PH) associated with lung fibrosis (mPAP 34 mmHg, PVR 415 dyn s cm⁻⁵, PAWP 11 mmHg, CI 2.57 l/min/m²). The detection of anti-PL-7 (antithreonyl-tRNA synthetase) antibodies positivity prompted the diagnosis of antisynthetase syndrome with ILD and PH. Treatment with sildenafil 20 mg TID was started while other medication remained unchanged. During 2 years of followup, PL-7 testing remained positive, exercise capacity improved, NT-proBNP values returned to normal, and lung function test remained unchanged (FVC 52.6%, FEV₁ 49%, FEV₁/FVC 91.2%, pO₂ 73.1 mmHg, pCO₂ 34.6 mmHg, SO₂ 96.7%). The patient was tested positive for PL-7; however, cytoplasmic fluorescence was not present.

To our knowledge, this is the first report of PL-7–positive antisynthetase syndrome with ILD and PH. The delay of the diagnosis was significant because the PL-7 antibodies were evidenced only 4 years after diagnosis of ILD.

The importance of PL-7 antibodies in myositis has been recognized for more than 2 decades. A suspicion of antisynthetase syndrome should be raised when patients are presenting with ILD and negative ANA but increased CK or aldolase. A recent analysis of Jo-1 vs PL-7 and PL-12–positive antisynthetase syndromes found that PL-7 and PL-12 patients had a very similar phenotype characterized by more ILD and less myositis as compared to Jo-1 syndrome. PL-7 and PL-12 patients were more prone to dyspnea and poor survival when compared to anti-Jo-1-positive patients. Pericarditis is also a possible manifestation related to anti-PL-7 antibodies, but in our patient there was no evidence of pericarditis. Recently, a retrospective analysis of 12 PL-7–positive patients identified 3 with echocardiographic signs of pulmonary hypertension. Unfortunately, right heart catheterization was not performed and therefore left ventricular involvement could not be ruled out. A retrospective analysis of a considerable number of patients with antisynthetase syndrome showed that the presence of pulmonary hypertension is associated with decreased survival.

Pulmonary involvement predicted good response for disease-modifying antirheumatic drug use in patients with anti Jo-1 but it remains

![Figure 1. A. Chest radiograph shows cardiomegaly and pulmonary reticulonodular pattern. B. Followup chest radiograph after 4 years is unchanged.](image-url)
speculative whether the same applies for patients with anti-PL-7 antibodies. Our case suggests that the combination of cyclosporine and corticosteroid with high-dose acetylcysteine may have contributed to control of progression of ILD but not of PH.

Our findings on PH in a PL-7-positive antisynthetase syndrome suggest that immunosuppressive treatment may control ILD but not pulmonary vascular involvement.

ACKNOWLEDGMENT
We thank Professor Ulrike Demel, Medical University of Graz, Division of Rheumatology, for repeated laboratory assessment of PL-7 antibodies and Professor Andrea Olschewski, Ludwig Boltzmann Institute for Lung Vascular Research, for critical discussion of the manuscript.

VASILE FORIS, MD, GABOR KOVACS, MD, Ludwig Boltzmann Institute for Lung Vascular Research, and Medical University of Graz, Department of Internal Medicine, Division of Pulmonology, Graz, Austria; MARCO MATUCCI-CERINIC, MD, PhD, Department of Biomedicine, Division of Rheumatology, AOUC and Department of Experimental and Clinical Medicine, University of Florence, Florence, Italy; HORST OLSCHEWSKI, MD, PhD, Ludwig Boltzmann Institute for Lung Vascular Research, and Medical University of Graz, Department of Internal Medicine, Division of Pulmonology, Address correspondence to Dr. H. Olschewski, Medical University of Graz, Department of Internal Medicine, Division of Pulmonology, A-8036 Graz, Auenbruggerplatz 20, Austria. E-mail: horst.olschewski@klinikum-graz.at.

REFERENCES


J Rheumatol 2013;40:10; doi:10.3899/jrheum.130403