

## Mycoplasmal Myopericarditis in an Elderly Woman

Leonid Barski MD<sup>1</sup>, Shulamith Horowitz PhD<sup>2</sup>, Elena Rabaev MD<sup>1</sup>, Aviel Sidi MD<sup>1</sup>, Avi Porath MD<sup>1</sup> and Alan B. Jotkowitz MD<sup>1</sup>

<sup>1</sup>Department of Medicine F and <sup>2</sup>Mycoplasma Laboratory, Soroka University Medical Center and Faculty of Health Sciences, Ben-Gurion University of the Negev, Beer Sheva, Israel

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Extrapulmonary complications can occur in association with *Mycoplasma pneumoniae* infection. The extrapulmonary manifestations are sometimes of greater severity and clinical importance than the primary respiratory infection. Cardiac complications associated with *M. pneumoniae* are uncommon. We describe a case of myopericarditis associated with *M. pneumoniae* infection.

### Patient Description

A 56 year old woman was hospitalized with chest pain and fever. These symptoms appeared 2 weeks before hospitalization and a chest X-ray and gastroscopy were performed on an ambulatory basis. These studies demonstrated a right lung infiltrate and gastritis, and treatment with roxithromycin and therapy for gastritis was started. However, the fever and chest pain continued and the patient was hospitalized.

On presentation she was not in acute distress and the physical examination revealed a pericardial friction rub. Pulsus paradoxus was negative. The laboratory studies showed: erythrocyte sedimentation rate 110 mm/hour, *M. pneumoniae* antibodies titer 1:80–1:160, C-reactive protein 15.800 mg/dl, negative rheumatoid factor, complement C3 184 mg/dl and complement C4 41 mg/dl. The X-ray showed mild cardiomegaly without pulmonary infiltrates or effusion. The computed tomography scan revealed moderate pericardial effusion. A mammography was normal. Echocardiography on presentation showed normal left ventricular systolic function and moderate pericardial effusion with borderline physiology of tamponade. A purified protein derivative test was negative.

Three days after hospitalization the *M. pneumoniae* antibody titer was repeated to rule out a false positive result and to assess for dynamic changes. The titer demonstrated a further elevation to 1:320–1:640. The patient was diagnosed with a diagnosis of mycoplasmal pericarditis and treatment with naproxen and roxithromycin was started. The chest pain and fever disappeared and echocardiography on hospital discharge (day 8) revealed a reduction in the amount of pericardial effusion.

Two weeks after discharge the patient's status was stable, without fever or chest pain and her family doctor decided to discontinue the therapy. The chest pain reappeared and the patient was readmitted to the hospital. Echocardiography showed mild generalized myocardial hypokinesis and minimal pericardial effusion with fibrin. The titer of *M. pneumoniae* antibodies was still elevated (1:160) and ESR was elevated to 120 mm/hr. At this stage due to the involvement of the myocardium found on echocardiography she was diagnosed with myopericarditis and therapy was renewed with roxithromycin and naproxen and colchicine was added.

The patient was discharged on day 7 of hospitalization with amelioration of her chest pain, and prolonged therapy with roxithromycin, naproxen and colchicine was recommended. At follow-up, 10 days after the second hospitalization, the patient was stable and asymptomatic with the titer of *M. pneumoniae* antibodies decreased to 1:80

### Comment

*M. pneumoniae* is a unique bacterium that does not always receive the proper at-

tention it merits, considering the number of illnesses it causes and the degree of morbidity associated with it in both children and adults [1]. Extrapulmonary complications involving all of the major organ systems can occur in association with *M. pneumoniae* infection as a result of direct invasion and/or autoimmune response [1,2]. The extrapulmonary manifestations are sometimes of greater severity and clinical importance than the primary respiratory infection [1]. Such infections are difficult to diagnose because of both the fastidious nature of the mycoplasmas and the failure to consider their presence. Diagnosis is usually made on the basis of clinical presentation and serological tests, particularly serial immunoglobulin G testing as IgM is not always elevated in adults with acute infection. Despite its drawbacks for use with immunosuppressed persons who are unable to mount an antibody response, serological diagnosis of *M. pneumoniae* respiratory infections has long been the cornerstone of *M. pneumoniae* diagnosis. It is advisable to test simultaneously for both IgM and IgG in paired specimens; the Fujirebio Serodia Myco II PA kit used by us measures both, maybe to a slightly lower sensitivity for IgM. There is a possibility that extremely low concentrations of antibody cannot be detected by this test – but this was not the case here. The comprehensive assessment of the patient's condition comprises also the careful analysis of the patient's clinical symptoms in addition to the laboratory tests.

ESR = erythrocyte sedimentation rate  
Ig = immunoglobulin

Cardiac complications associated with *M. pneumoniae* are uncommon and more commonly described in adults than in children [1]. In addition, Mycoplasma-associated carditis is a rarely confirmed example of invasive mycoplasmal infection. There are two clinical reviews in the English-language medical literature regarding mycoplasmal carditis [3,4]. Since the review by Pönkä [3] in 1979, 21 additional cases of Mycoplasma-associated carditis were published and were reviewed by Paz and Potasman in 2002 [4]. In this review pericarditis was the final diagnosis in 15 patients, myocarditis in 5 patients, and 1 patient had myopericarditis [4]. Mycoplasma-associated carditis may result in pronounced morbidity and long-term cardiac sequelae, unless appropriate therapy is administered [3-5]. The course of mycoplasmal carditis may be one of recurrent episodes of chest pain, intermittent constitutional symptoms and, eventually, cardiac tamponade due to pericarditis, despite treatment with non-steroidal anti-inflammatory drugs [5]. In our patient in addition to the pericardial involvement manifested by the pericardial effusion, direct myocardial involvement

was suggested by the echocardiographic findings of mild generalized myocardial hypokinesis.

The outcome of mycoplasmal carditis has improved over the years – apparently due to better diagnostic imaging (echocardiography and computed tomography), improved medical treatment (better antibiotic coverage), and the increasing number of drainage procedures in patients with pericarditis [4]. The relapse in a course of mycoplasmal carditis is not infrequent [3-5] and the recommended treatment is a second course of antibiotics, steroids or colchicine [4]. In our patient, relapse after a course of antibiotic therapy and improvement in her status after starting the colchicine most probably confirms the autoimmune pathogenesis of the disease at this stage.

Since most patients with mycoplasmal carditis present solely with respiratory symptoms, a high index of suspicion is needed [4]. This suspicion should be supported by examination of the electrocardiograms [4]. In our patient the physical examination with pericardial friction rub was an important symptom on presentation. Our case is interesting

for several reasons: mycoplasmal infection is less common in elderly patients than in young adults; myopericarditis is a rare complication of mycoplasmal infection; the diagnosis on presentation was based on physical examination and clinical picture; and the relapsing course of the disease.

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**Correspondence:** Dr. L. Barski, Dept. of Medicine F, Soroka University Medical Center, P.O. Box 151, Beer Sheva 84101, Israel. Phone: (972-8) 640-3355; Fax: (972-8) 640-0097 email: lbarski@clalit.org.il