Mycoplasma Pneumoniae Pericarditis

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***Mycoplasma pneumoniae* is an atypical bacterium that is frequently implicated in respiratory infections, but uncommonly identified as a cause of pericarditis. We report 2 cases of pericarditis attributed to *M. pneumoniae* that were characterized by prolonged respiratory prodromes, pericardial, and pleural effusions, elevated inflammatory markers, and relapsing clinical courses. In conclusion, our experience suggests that *M. pneumoniae* should be considered as a potential cause in cases of pericarditis associated with upper respiratory symptoms, pneumonia, pleural effusions, arthralgia, and/or a recurrent/refractory clinical course. The availability of effective antibiotic treatment makes this an important diagnosis to make.** **(Am J Cardiol 2019;123:1383−1384)**

Mycoplasma pneumoniae is a common bacterial cause of respiratory infections, including community-acquired pneumonia. Cardiac involvement is reported, but is considered very uncommon, with an incidence of 1% to 5%.[1,2] We present 2 cases of pericarditis attributed to *M. pneumoniae* seen within a single month.

Table 1 compares the main characteristics of each case and demonstrates their similarities. In both cases, inflammatory markers were elevated and extensive infectious and rheumatologic evaluations were negative except for a positive *M. pneumoniae* IgM titer.

Patient 1, a 73-year-old woman with a mild, stable cardiomyopathy and a pacemaker, placed because of atrial dysrhythmias, and Patient 2, a 23-year-old woman with a history of asthma and hypertension, both presented several times over a period of weeks with recurrent pleuritic chest pain, fever, progressive dyspnea, myalgias, a nonproductive cough, and pleural effusions without pulmonary infiltrates. Both were initially treated with antibiotics for presumed respiratory infections and then later with nonsteroidal anti-inflammatory drugs/colchicine for pericarditis, although neither treatment decisively resolved their symptoms. Patient 1 initially had a small pericardial effusion with stable ventricular function. Her effusion subsequently enlarged causing hemodynamic compromise and she developed transient left ventricular dysfunction. She underwent pericardiocentesis (Table 1) and was found to have a positive *M. pneumoniae* IgM serum titer. She was treated with doxycycline and colchicine and rapidly improved. Patient 2 had a similar presentation as well as bilateral knee swelling. She was documented to have a moderate pericardial effusion without hemodynamic compromise and ultimately underwent a thoracentesis (Table 1). She was treated with doxycycline, prednisone, and colchicine and began to improve. Neither patient has had a recurrence of her symptoms on follow-up.

Table 1
Case characteristics

	Patient 1	Patient 2
Age [years]	73	23
Gender	Female	Female
Pre-existing medical conditions	Mild stable cardiomyopathy, hypertension, atrial arrhythmia	Asthma, hypertension
Preceding respiratory symptoms	+	+
Nonrespiratory or cardiac symptoms	Myalgias	Bilateral knee swelling
Pleural effusion or infiltrate	+	+
Thoracentesis	Not performed	+ Exudative, sterile
Pericardial effusion	+ (large)	+ (moderate)
Pericardiocentesis	450 ml bloody fluid	Not performed
Electrocardiogram	Atrioventricular pacing	Sinus tachycardia with diffuse ST elevations
Troponins	Normal	Normal
C-reactive protein [mg/L]	186	81
ESR [mm/hour]	104	112
Antinuclear antibody	-	-
Rheumatoid Factor	Not collected	-
Direct fluorescent antibody	-	-
Cardiac MRI findings	No LGE or edema	No LGE or edema
Echocardiogram	Severely reduced LV function, large effusion with hemodynamic compromise	Normal LV function, moderate effusion without hemodynamic compromise
Treatment	Doxycycline + Colchicine	Prednisone + Doxycycline + Colchicine

ESR = Erythrocyte sedimentation rate; MRI = Magnetic resonance imaging; LGE = Late gadolinium enhancement; LV = Left ventricular

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See page 1384 for disclosure information.

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0002-9149/
https://doi.org/10.1016/j.amjcard.2019.01.014

Discussion

M. pneumoniae is a common respiratory pathogen that is infrequently implicated in pericarditis[1,3,4]. While pneumonia caused by *M. pneumoniae* is predominantly a disease of children and young adults, those with *M. pneumoniae* pericarditis are generally older.[1] It is postulated that *M. pneumoniae* in the respiratory tract reaches the pericardium through the bloodstream, bronchiolar lymphatics or by direct seeding.[5] *M. pneumoniae* infections are frequently associated with respiratory symptoms in the presence and absence of pulmonary infiltrates, and may have extrapulmonary manifestations such as fevers, arthralgia, and myalgia[6]. A review of the literature revealed few reported cases of *M. pneumonia* pericarditis and half of them were in pediatric patients[1–5,7–11]. Of the 5 reported adult cases, only one was reported in the past 10 years.[4]

Given that *M. pneumoniae* serologic testing is not routinely performed in the evaluation of pericarditis, it is possible that *M. pneumoniae* pericarditis is a more common entity than previously believed.[9] Our experience suggests that serologic testing for *M. pneumoniae* should be performed in cases of pericarditis associated with prolonged upper respiratory symptoms, pneumonia, pleural effusions, extrapulmonary symptoms such as arthralgias and myalgias, and/or a recurrent/refractory clinical course,[1,3,9] as specific treatment is available which may improve the clinical outcome.

Disclosures

The authors have no conflicts of interest to disclose.

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