Turkish Journal of Medical Sciences

Volume 28 | Number 1 Article 20

1-1-1998

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Tr. J. of Medical Sciences
28 (1998) 97-98

Short Report

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Detection of Antinuclear Antibody (ANA) in Patients with Mycoplasmal Pneumonia

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Received: May 27, 1996

Mycoplasma pneumoniae is one of the most common etiologic agents of atypical pneumonia. Although the majority of the clinical syndromes caused by this organism present as asymptomatic infection or upper respiratory tract infection, about 3% of the patients infected admit signs and symptoms of pneumonia (1). Although the exact mechanism of the extrapulmonary complications seen during the course of mycoplasma infections is not well understood, immune complex and autoantibody production are blamed for this entity. Autoantibody production is probably due to the antigenic mimicry between the host and the microorganism or antigenic variation of the host cells occuring during the infectious process. Antinuclar antibody (ANA) is one of the autoantibodies which is occasionally detected in sera of patients with mycoplasmal pneumonia (2,3).

We searched for the presence of ANA in a total of 22 serum samples collected from 11 patients who were diagnosed to have pneumonia caused by Mycoplasma pneumoniae depending on the culture results of protected brush specimens obtained during the acute phase of the disease. Two serum samples were collected from each patient, one in the acute and another in the convalescent phase of the disease, with an interval of 14 days. ANA detection was done by using indirect flourescent antibody technique (4). All but one of the samples gave negative result. The serum sample which was found to be positive for ANA at a titer of 1/80 dilution showed homogenous staining pattern and belonged to a 44 years old previously healthy female patient who presented with fever, cough, mucoid sputum production, myalgia, arthralgia, abdominal pain and constipation. She had no history of any underlying disease or medication that could explain ANA positivity. One physical examination, nothing was remarkable except crepitation at right lower thoracic area. Chest radiographic findings revealed infiltration at lower lobe of the right lung. Cultivation of protected brush specimen yielded Mycoplasma pneumoniae. The patient had clinical and radiological cure after appropriate antimicrobial therapy was administered. No extrapulmonary complications were observed. The second serum sample of the same patient was found to be negative for ANA. Flourescent antibody tests of both samples of the patient were repeated three times and the results did not change. Occasional detection of ANA in sera of patients with mycoplasmal pneumonia is a known entity. The reason why the second serum sample of the patient in our study was negative for ANA may be the reversible polyclonal B cell activation. We emphasize that ANA might be detected in serum samples of patients with Mycoplasma pneumoniae infections. In cases for whom the finding of a positive ANA value is unexpected, the probability of a recent Mycoplasma infection should be kept in mind.

References

1. Clyde WA, Jr. Clinical overview of typical Mycoplasma pneumoniae infections, Clin Infect Dis 17, Supplement 1: 32-6, 1993.
2. Couch RB. Mycoplasma pneumoniae (Primary atypical pneumonia). Principles and practice of infectious diseases (Eds. GL Mandell, RG Douglas, JE Bennett) Churchill Livingstone Inc, New York 1990, pp: 1446-58.
3. Moteki S, Yoshida H, Nishimaki T. Detection of autoantibody to mitotic spindle associated antigen (MSA) in sera from patients with positive Mycoplasma pneumoniae particle agglutination, Rinsho-Byori 39: 1337-41, 1991.
4. Bartholomew BA. Antinuclear antibody tests as a clinically selected screening procedure, Am J Clin Pathol 61: 495-9, 1973.