

Analysis of *Mycoplasma pneumoniae* IgG response in patients with respiratory tract infections

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ABSTRACT

Introduction

M. pneumoniae is the causative agent of primary atypical pneumonia. Patients mount IgM and IgG antibody responses against this infection. However, IgM antibodies are not always produced in adults upon reinfection. Therefore, diagnosis of *M. pneumoniae* infection in adults relies on specific IgG response which increases slowly during the course of illness. Most clinicians receive a single serum sample for serology tests, as paired sera testing will not be useful for management due to time delay or patients may not provide a convalescent-phase sample.

Aim

Analysis of the *M. pneumoniae* specific IgG response in paired-sera of patients with respiratory tract infections.

Methodology

A prospective clinical study was carried out involving 418 adult patients in Colombo North Teaching Hospital, Ragama and chest hospital, Welisara (Pneumonia-97, acute bronchitis-183, pharyngitis-138). *M. pneumoniae* specific IgG was tested and analyzed in paired sera using ELISA kits (IBLHamburg-Germany).

Results

27 patients showed positive IgG antibody titer in acute, convalescent or both serum samples. In these 27 samples, seven were positive in acute-serum samples and negative in convalescent-samples. Thirteen were positive at convalescent-sampling but negative at acute-sampling. Seven were positive in both acute and convalescent samples.

Discussion

Only 25.9% (7/27) of the cases would be diagnosed correctly using paired sera. 48.2% (13/27) would be negatively misdiagnosed 25.9% (7/27) would be positively misdiagnosed by testing acute sample alone. Paired-serum samples were essential to confirm the diagnosis of 74.1% (20/27) of patients with suspected *M. pneumoniae* infection.

Conclusion

Paired-serum samples are mandatory in the diagnosis *M. pneumoniae* infection based on IgG response.