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Title: Macrolide-resistant *Mycoplasma pneumoniae* in adolescents with community-acquired pneumonia

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Body: Background and objective: Although the prevalence of macrolide-resistant (MR) *Mycoplasma pneumoniae* isolates in Japanese pediatric patients has increased rapidly, there have been no reports concerning MR *M. pneumoniae* infection in adolescents aged 16 to 19-years old. The purpose of this study was to clarify the prevalence and clinical characteristics of MR *M. pneumoniae* in adolescent patients with community-acquired pneumonia. Methods: A total of 61 cases with *M. pneumoniae* pneumonia confirmed by polymerase chain reaction (PCR) and culture were analyzed. Thirty-two cases were pediatric patients less than 16 years old, 14 cases were 16 to 19-year-old adolescent patients and 15 cases were adult patients. Primers for domain V of 23S rRNA were used and DNA sequences of PCR products were compared with the sequence of an *M. pneumoniae* reference strain. Results: Twenty-two of 32 pediatric patients less than 16-years old, eight of 14 adolescent patients aged 16 to 19-years old and five of 15 adult patients with *M. pneumoniae* pneumonia were found to be infected with MR *M. pneumoniae*. Among 22 pediatric MR patients, 18 had an A-to-G transition at position 2063 (A2063G) and four had an A-to-G transition at position 2064 (A2064G). Among eight adolescent MR patients, six showed an A2063G transition and two showed an A2064G transition. Conclusions: The prevalence of MR *M. pneumoniae* is high among adolescent patients as well as pediatric patients less than 16-years old. To prevent outbreaks of *M. pneumoniae* infection, especially MR *M. pneumoniae*, in closed populations including among families, in schools and in university students, physicians should pay attention to MR *M. pneumoniae*.