Title: Unexpectedly high incidence of pneumothorax in patients with pulmonary Mycobacterium avium complex infection

Body: Objectives: Pneumothorax in patients with pulmonary Mycobacterium avium complex (MAC) infection has been considered rare and little is known about its clinical course. In this study we aimed to analyze the clinical features, outcome, and prevalence of pneumothorax in pulmonary MAC infection.

Methods: The clinical records of all 18 patients with active pulmonary MAC infection complicated with pneumothorax in eight years between 2003 and 2010 were retrospectively analyzed. The complication rate of pneumothorax in pulmonary MAC infection was calculated based on the number of all active pulmonary MAC patients in our institute during the same period.

Results: The patients were eight males and ten females with a mean age of 75 years (range 50-89). Thirteen patients were with M. avium, one with M. intracellulare, four with unidentified MAC, and none with HIV infection. Pneumothorax occurred on the right lung in twelve patients and on the left in six. All but one patient had MAC disease in both lungs, and twelve patients had widespread lesions with total area more than one lung field. Seven of 18 patients (39%) were forced to undergo surgical operation following unsuccessful thoracic drainage. Five patients experienced the recurrence during the period and other two eventually stayed with chronic pneumothorax. The complication rate of pneumothorax in active pulmonary MAC infection was as high as 2.4% (18 out of 746 all MAC patients), 2.1% in female and 3.0% in male patients.

Conclusions: The incidence of pneumothorax in patients with pulmonary MAC infection is unexpectedly high, especially in elderly, male, and progressed MAC disease. It is often difficult to treat and easy to recur.