Title: Retrospective observation of mycobacterium avium complex lung disease followed without treatment

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Body: BACKGROUND Although mild case of Mycobacterium avium complex (MAC) lung disease is often followed without treatment, the consensus of appropriate time to start its treatment has not been established. AIM The aim of the study was to evaluate the characteristics of patients with MAC lung disease who were withheld or delayed treatment. METHOD Data on patients with MAC lung disease who were withheld treatment for at least 6 months after diagnosis were retrospectively reviewed. Changes in baseline characteristics and plain chest radiograph were compared between untreated and treated groups. To evaluate radiological findings, lung area of each patient was divided into 6 zones. Each zone was scored with reference to presence of four elements as nodules, infiltration, cavity, and bronchiectasis and the scores were summed up. RESULTS Fifty-six patients were investigated, including 15 patients who were initiated the treatment during the observation. The mean follow-up period was 7.5 ± 5.8 years. There were no significant differences in baseline characteristics between the groups, while the initial image score (nodulues, infiltration, ectasis) at diagnosis was significantly higher in treated group as compared to untreated group. The score in elements of infiltration and ectasis was dramatically increased in treated group at the time of starting treatment; however, the treatment didn’t improve the scores. On the other hand, the score (nodulues, infiltration, ectasis) was slowly but significantly increased after the observation period in untreated group. CONCLUSION Radiological findings of the MAC lung disease at diagnosis may be useful to predict its progressive deterioration requiring treatment.