

Usefulness of chest CT to assess persisted disease activity or possibility of early reactivation of pulmonary tuberculosis

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PURPOSE: The purpose of this study was to evaluate changes of chest CT findings in patients with active pulmonary tuberculosis (TB) between before and after anti-TB chemotherapy and the usefulness of chest CT scan to assess the persisted disease activity or possibility of early reactivation.

MATERIALS AND METHODS: We retrospectively reviewed newly diagnosed 67 pulmonary TB patients who were proven bacteriologically and/or histologically between March 2009 and December 2011. All patients were treated with standard short-course chemotherapy. Chest CT scans were performed before and after treatment.

RESULTS: Tree-in-bud appearance lesion (84%), peribronchial consolidation (64%), pre-existing old TB lesion (37%), cavitation (28%), and larger confluent density including lobular consolidation (27%) were most common findings on chest CT scan at starting of anti-TB therapy. After completion of anti-TB therapy, regressions of initial parenchymal findings were found in the most patients (87%, 58/67) without new or aggravated lesion and the lesions of 3 patients (2 tuberculomas and 1 consolidation) were not changed. Newly appeared and/or aggravated splenic tuberculomas (1/67), TB lymphadenitis (1/67), cavitory nodules (4/67), and tree-in-bud appearance lesions (2/67) after 6 months therapy, were completely treated with or without additional 3 months therapy (total 9 months therapy). Among all patients with median 15 months (IQR 10–21 months) follow up after completion of anti-TB therapy, only 1 patient relapsed 10 month after treatment completion despite regression of initial active lesions after 6 months treatment.

CONCLUSION: If initial parenchymal lesions were regressed after sufficient TB therapy, new cavitation or residual lesions were not suggestive of persisted activity or possibility of early reactivation of pulmonary TB. However, some new or residual lesions after initial 6 month therapy may need additional 3 months therapy.