

**Postoperative Tumor Recurrence on Chest Wall in Lung Cancer: Evaluation with Thallium-201(<sup>201</sup>Tl) Single Photon Emission Computed Tomography(SPECT).**

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**Purpose:** To assess the usefulness of the <sup>201</sup>Tl SPECT for detection of the postoperative tumor recurrence on chest wall or chest wall tumor invasion and to evaluate whether <sup>201</sup>Tl SPECT can differentiate malignant from benign effusion.

**Materials and Methods:** 19 patients including 8 patients with suspected recurrence of tumor in chest wall on postoperative chest CT scan, 3 with postoperative pleural effusion which proved benign on radiologic, cytologic and laboratory findings, 4 with chest wall invasion of lung cancer (including 1 with malignant mesothelioma) and 4 with chronic tuberculous empyema as control group were included. All patients underwent SPECT 1 and 4 hours after intravenous injection of 3mCi of <sup>201</sup>Tl.

**Results:** Markedly increased <sup>201</sup>Tl uptake was noted in patients with suspected recurrence of tumor in the chest wall(8/8) whereas no(2/3) or minimal(1/3) uptake along the collapsed lung in patients with postoperative benign pleural effusion. Patients with chest wall tumor invasion also revealed increased <sup>201</sup>Tl uptake on chest wall(4/4). Patients with chronic tuberculous empyema showed smooth increased uptake(4/4), but in lesser degree, compared to recurrent tumor uptake.

**Conclusion:** <sup>201</sup>Tl lung SPECT can be useful in detection of postoperative recurrence of tumor on chest wall and tumor invasion into the chest wall and useful in differentiation of malignant effusion from benign effusion.