

## **$^{99m}\text{Tc}$ -MIBI SPECT in small cell lung cancer patients before chemotherapy and after unresponsive chemotherapy**

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We evaluated the accumulation of  $^{99m}\text{Tc}$ -MIBI in small cell lung cancer patients before chemotherapy and after unresponsive chemotherapy. The pre-chemotherapeutic group included 22 newly diagnosed patients. These patients underwent a  $^{99m}\text{Tc}$ -MIBI SPECT study before starting chemotherapy. After chemotherapy, based on changes in tumor size, three different patterns of response (complete remission: CR, partial remission: PR and no change: NC) were defined. The post-chemotherapeutic group included 11 patients after chemotherapy who did not respond to chemotherapy. These patients underwent a  $^{99m}\text{Tc}$ -MIBI SPECT study after completion of chemotherapy. SPECT images were acquired 15 min (early) and 2 hr (delayed) after injection of  $^{99m}\text{Tc}$ -MIBI. With a region of interest technique, the early ratio, delayed ratio and retention index were calculated. Early and delayed ratios in pre-chemotherapeutic patients were significantly higher than those in post-chemotherapeutic patients. There were no significant differences between the pre-chemotherapeutic and post-chemotherapeutic patients in the retention index. In the pre-chemotherapeutic patients, early and delayed ratios for the CR and PR groups were significantly higher than those for the NC group. There were no significant differences in the retention index with respect to the tumor response.  $^{99m}\text{Tc}$ -MIBI might be useful for evaluating the tumor chemosensitivity in patients with small cell lung cancer.

**Key words:**  $^{99m}\text{Tc}$ -MIBI, small cell lung cancer, chemotherapy