

**Ring appearance on Tc-99m MIBI thoracic SPECTs  
and increased uptake on Tc-99m HMDP  
thoracic SPECTs in a pulmonary mass of small cell carcinoma**

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Tc-99m MIBI is taken up avidly by viable tumor tissue and does not accumulate in the necrotic carcinoma. We present a patient who underwent Tc-99m MIBI and Tc-99m HMDP thoracic SPECTs: a large area of increased MIBI uptake with central photopenia (ring appearance) in the right upper lung localizes bone imaging agent and does not localize multiple areas of intense uptake in the metastatic hilar mediastinum lymph nodes. Rapid growth of tumor cells in the lung leading to central necrosis/ischemia accounts for bone imaging agent localization in the tumor, as well as the ring-appearance of lung mass on Tc-99m MIBI imaging. These findings may reflect less viability of the lung tumor as compared with intense MIBI uptake in hilar/mediastinal lymph node uptake without bone agent localization.

**Key words:** small cell carcinoma of the lung, Tc-99m MIBI SPECT, Tc-99m HMDP SPECT, photopenia, bone agent extraosseous localization