

## **$^{201}\text{Tl}$ SPECT for evaluating head and neck cancer**

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**Background:** Thallium-201 ( $^{201}\text{Tl}$ ) has come to be widely used in the diagnosis of several kinds of malignant tumor, but its usefulness in diagnosing head and neck cancer has not been established. **Purpose:** This study investigated the usefulness of  $^{201}\text{Tl}$  SPECT imaging in patients with head and neck cancer histologically confirmed. **Methods:** Eighteen patients with histologically proven head and neck cancer were studied.  $^{201}\text{Tl}$  SPECT images were obtained both 15 min and 4 hours after intravenous injection of 148 MBq of  $^{201}\text{Tl}$ -chloride.  $^{201}\text{Tl}$ -indices were calculated semiquantitatively to assess the tracer uptake in relation to tumor size and histological type. **Results:** High  $^{201}\text{Tl}$  uptake was noted in all primary tumors and metastatic lymph nodes on the both early and delayed images, but  $^{201}\text{Tl}$ -indices did not show any correlation with tumor size or histological type. **Conclusion:** Primary head and neck cancer and lymph node metastasis can be effectively visualized with  $^{201}\text{Tl}$  SPECT. It may provide information in addition to morphological changes and may be a supplemental method to use in the evaluation of head and neck cancer.

**Key words:**  $^{201}\text{Tl}$  SPECT, head and neck cancer, lymph node metastasis