201^Tl SPECT for evaluating head and neck cancer

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Background: Thallium-201 (^201Ti) 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 ^201Ti SPECT imaging in patients with head and neck cancer histologically confirmed. Methods: Eighteen patients with histologically proven head and neck cancer were studied. ^201Ti SPECT images were obtained both 15 min and 4 hours after intravenous injection of 148 MBq of ^201Ti-chloride. ^201Ti-indices were calculated semiquantitatively to assess the tracer uptake in relation to tumor size and histological type. Results: High ^201Ti uptake was noted in all primary tumors and metastatic lymph nodes on the both early and delayed images, but ^201Ti-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 ^201Ti 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: ^201Ti SPECT, head and neck cancer, lymph node metastasis