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Thallium-201 Single-Proton Emission CT versus CT for the Detection of Recurrent Squamous Cell Carcinoma of the Head and Neck

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**Thallium-201 Single-Proton Emission CT
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and Neck**

We read with interest the article by Mukherji et al (1), concerning the use of thallium²⁰¹ SPECT to detect primary squamous cell carcinoma of the head and neck. The authors clearly show that high accuracy is obtained with ²⁰¹Tl SPECT in the differential diagnosis of recurrent tumor versus treatment effect in this tumor group, which surpasses the reliability of CT in depicting this problem. We bring to the attention of your readers our findings (2), which suggest another potentially important area of diagnostic benefit from the use of ²⁰¹Tl, specifically, the ability to obtain prognostic information concerning the expected biologic aggressivity of a childhood brain tumor. Abnormal ²⁰¹Tl uptake in this population appears to denote a subgroup of lesions with mortality and morbidity that is distinctly greater than that in other lesions; ²⁰¹Tl-avid lesions showed a 50% shorter period of recurrence-free survival from the time of diagnosis ($P < .01$). These findings exceed the specificity of correlated structural imaging, mainly MR imaging. It would be of interest to know whether Dr. Mukherji and colleagues found any similar trends with respect to the different groups with cancer of the head and neck.

Thus, the findings of both the University of North Carolina study and our study suggest that the widely available and relatively inexpensive agent, ²⁰¹Tl, can be used to obtain important functional information regarding the biologic behavior of brain tumors that cannot be gleaned from the structural imaging findings alone. If confirmed in further clinical experience, this information has great potential benefit and may influence patient counseling regarding long-term outcome. Also, it could be useful in the selection of the best treatment protocols.

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2. O'Tuama LA, Poussaint TY, Anthony DC, Treves ST. **Childhood brain tumor: neuroimaging correlated with disease outcome.** *Pediatr Neurol* 1998;19:259-262