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## Reply

I thank Dr. Green for his comments. I agree with some and disagree with others. My responses to his points in order of their presentation in his letter are as follows:

(1) I agree that, strictly speaking, one cannot extrapolate from data in normal subjects to expected utility in patients.
(2) We did not realize that the microalbumin colloid supplied to Dr. Kloiber was different from that supplied to us (*1*). Consequently, comparisons between our data and his are inappropriate, and I regret this error.
(3) The statement concerning higher background relative to liver with Tc-99m microalbumin colloid is referenced to the paper by Kloiber et al (*1*). We did not directly measure background radioactivity. We did, however, find a higher liver-to-bone marrow ratio ($p < 0.05$) and a higher liver-to-heart ratio ($p < 0.05$) in delayed images with Tc-99m sulfur colloid.
(4) Our data are significantly different from those of Wasnick et al. (*2*) in that we measured inter- and intrasubject reproducibility in normals whereas Wasnick et al. measured only intersubject reproducibility.
(5) The fact that Tc-99m microalbumin colloid is an "instant" kit does make it more convenient and may reduce radiation exposure. However, the nonbiodegradability of Tc-99m sulfur colloid results in no known disadvantages, whereas the biodegradability of Tc-99m microalbumin colloid may result in increased background radioactivity, particularly if imaging is delayed.
(6) The statement that our clinical studies confirm the essential equivalence of the biodistribution of two colloids is an oversimplification, since our data demonstrate statistically significant differences in several biodistribution parameters in the delayed images.
(7) The nature of the utility of Tc-99m microalbumin colloid in hepatobiliary disease is unclear as stated. In general, a radiocolloid would not be the radiopharmaceutical of choice for evaluation of hepatobiliary disease.

In summary, in view of the currently available data, it is my feeling that the disadvantage of the small amount of free Tc-99m in microalbumin colloid will outweigh the advantage of a more convenient preparation.

WILLIAM C. KLINGENSMITH III
University of Colorado
Denver, Colorado

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## Hemiagenesis of the Thyroid: Clinical and Radiological Presentation in the Pediatric Patient

Thyroid hemiagenesis was recently reviewed (*1*). Of the 94 patients reported, six were in the pediatric age range, four of whom were diagnosed postmortem and two postoperatively. In the past 10 yr at our pediatric endocrine clinic we identified two such cases. The paucity of reports on the clinical and radiological presentation of thyroid hemiagenesis in pediatric patients, and the almost total lack of reference in standard textbooks, prompted this report of two children with hemiagenesis.

**Case reports.** *Case 1.* A 4¾-yr-old girl was referred for unilateral neck swelling. A soft, nontender, moveable mass, 3 × 1.5 cm, was palpable in the location of the right thyroid lobe. The isthmus and left lobe were not palpable. Thyroid imaging showed a right lobe but no trace of the left (Fig. 1, left). In response to 105 μg of TRH, the fasting TSH level rose from baseline value of 2.4 μU/ml to 16.9 at 30 min, and 9.1 μU/ml at 60 min. Daily injections of 10 units of TSH were given for 3 days. A repeat thyroid scan was unchanged. (Fig. 1 right). Concentrations of $T_4$ and $T_3$ increased to 17.3 μg/dl and 432 ng/dl, respectively, indicating that the thyroid tissue responded to TSH stimulation. Thyroid studies are summarized in Table 1.

*Case 2.* An 11-yr-old boy was referred for an asymptomatic right neck mass. The mass was 4 × 1.5 cm, soft and nontender, lying in the area of the right thyroid lobe. Neither the isthmus nor the left lobe was palpable. A Tc-99m scan revealed no activity in the area of the left lobe. The 24-hr I-131 uptake was 45%. After the administration of $T_3$, 25 μg twice daily for 10 days, the $T_4$ fell to 2.5 μg/dl, the TSH became undetectable, the $T_3$ was 220 ng/dl, and the I-131 uptake to less than 1%.

**Discussion.** Uncomplicated thyroid hemiagenesis in the pediatric patient has not been described previously. In addition to the six pediatric cases reported by Melnick and Stemkowski (*1*), Hopwood et al. (*2*) described an 11-yr-old girl with thyroid hemiagenesis and thyroiditis who was treated surgically.

The clinical presentation of thyroid hemiagenesis in our patients was that of unilateral thyroid enlargement with no palpable contralateral thyroid tissue. Both patients were euthyroid, asymptomatic, and had normal thyroid function, except for slightly el-

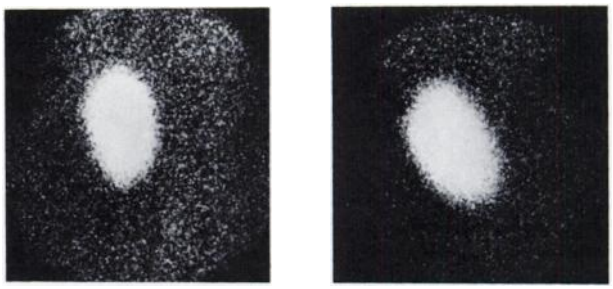

**FIG. 1.** Tc-99m thyroid scan in Case 1 (left). Similar scan following TSH stimulation (right).