

LETTERS TO THE EDITOR

Re: Preoperative Technetium-99m Imaging of a Substernal Parathyroid Adenoma

With regard to the article by Drs. Naunheim et al. (1), we have the following observation. Recently we encountered a patient with a parathyroid adenoma demonstrated by Tc-99m MDP bone scintigraphy. A 62-yr-old man, in a soporific state, presented with severe hypercalcemia that prompted the diagnosis of primary hyperparathyroidism or hypercalcemia due to a malignancy. Bone scintigraphy, performed to exclude skeletal metastases, revealed extensive soft tissue uptake of Tc-99m MDP in the lungs, myocardium, and an abdominal scar from a cholecystectomy. In addition, a dense area of increased uptake was found in the lower right part of the neck (Fig. 1).

In spite of calcitonin therapy the patient died, and at autopsy a parathyroid adenoma was found adjacent to the thyroid. The histologic study showed extensive microcalcifications in the adenoma and also in the lungs and heart. In view of the bizarre bone scan, the Tc-99m MDP preparation used was checked for the presence of free pertechnetate, but none was found. Since microcalcifications are often observed in parathyroid adenoma, the use of Tc-99m MDP should be considered for studies to determine if parathyroid adenoma is present.

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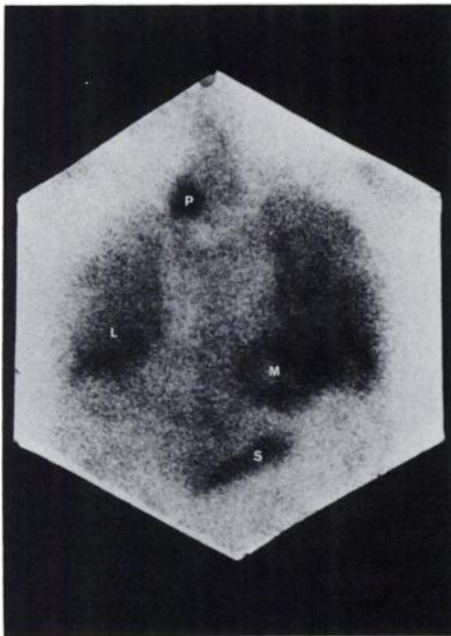


FIG. 1. Tc-99m MDP scintigraphy. Note marked accumulation of activity in lungs (L), myocardium (M), abdominal scar (S) and the parathyroid adenoma (P).

REFERENCE

1. NAUNHEIM KS, KAPLAN EL, KIRCHNER PT: Preoperative technetium-99m imaging of a substernal parathyroid adenoma. *J Nucl Med* 23:511-513, 1982

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Naunheim et al. (1) describe the accumulation of ^{99m}Tc pertechnetate in a parathyroid adenoma and suggest that the technique has been overlooked as a means of imaging parathyroid adenomas.

Over the last 12 mo we have scanned 20 patients who have subsequently been shown surgically and histologically to have solitary parathyroid adenomas. We used both pertechnetate and Tl-201 thallous chloride as described by Ferlin et al. (2). All the patients were scanned after 2 mCi (75 MBq) of Tc-99m pertechnetate, using a pinhole or converging collimator. We have reviewed these cases and identified those instances where the adenoma was not covered by thyroid tissue and where pertechnetate uptake could be evaluated separately (Fig. 1). In none of these 11 cases was there parathyroid uptake of pertechnetate above background levels.

Our experience suggests that pertechnetate imaging is not in itself useful for detecting parathyroid adenomas either in normal or ectopic locations. The combined technique described above, however, has proved very valuable; a full assessment of the technique will be published shortly.

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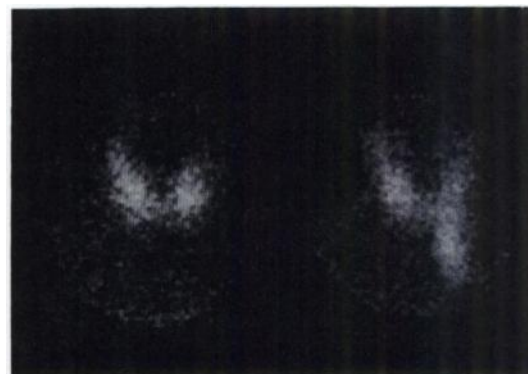


FIG. 1. Technetium image of thyroid (left) and thallium image of same patient (right) showing thyroid and parathyroid adenoma just inferior to left lobe of thyroid. No significant uptake of technetium is seen in region of adenoma.