

SPECT-CT and planar image of an ectopic mediastinal parathyroid adenoma

Jih-Fang Hsieh

CASE REPORT

A 50-year-old female was referred to our department for parathyroid scintigraphy due to incidental finding of hypercalcemia. Tc-99m methyliodobenzylguanidine (MIBI) post-tracer injection early planar image at 20 minutes (arrow in Figure 1A) and delayed image at 2 hours (arrow in Figure 1B) show persistent focus of radiotracer accumulation at the middle of medial left chest. This focus was localized by single photon emission computed tomography-computed tomography (SPECT-CT) (Figure 2) in the left superior anterior mediastinum which is suggestive of an ectopic parathyroid adenoma. The patient underwent video-assisted thoracoscopic surgery (VATS) and pathology confirmed an ectopic parathyroid adenoma.

DISCUSSION

Anterior mediastinum is among one of the sites of an ectopic parathyroid adenoma. It has been reported in several studies that SPECT-CT offers the definite advantage of combined functional image and anatomic image in the accurate localization of a possible ectopic parathyroid gland. This case demonstrates the utility of SPECT-CT in optimal diagnosis in scintigraphy which combined anatomical and physiologic images [1–4].

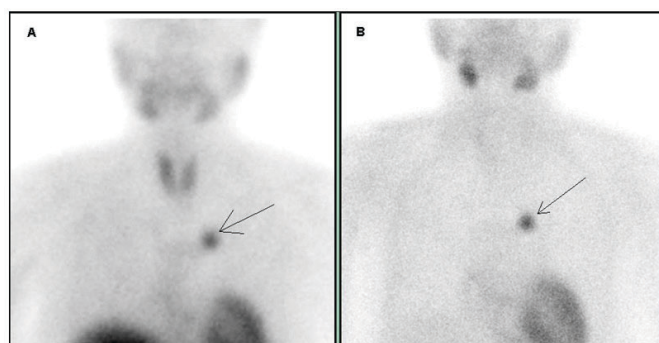


Figure 1: Technetium-99m (Tc-99m) MIBI post-tracer injection early planar image at 20 minutes (A arrow) and delayed image at 2 hours (B arrow) show persistent focus of radiotracer accumulation at the middle of medial left chest. In addition, normal physiologic accumulation of the radiotracer is seen in the salivary glands, thyroid, and myocardium.

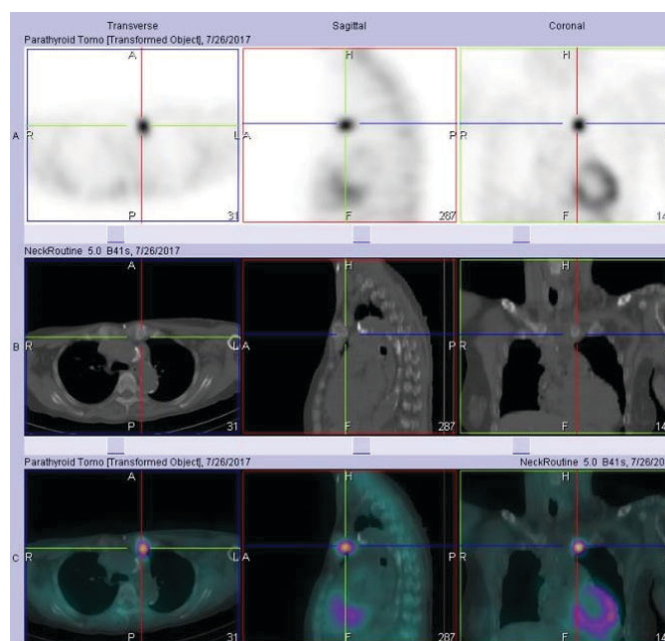


Figure 2: Axial, coronal, and sagittal fused SPECT-CT images demonstrate the focus of Tc-99m MIBI accumulation at the left side of the chest is localized at the left superior anterior mediastinum.

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CONCLUSION

Single photon emission computed tomography-computed tomography should be considered a standard in scintigraphy for optimal imaging of ectopic parathyroid gland.

Keywords: Ectopic, Parathyroid adenoma, Single photon emission computed tomography-computed tomography

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Author Contributions

Jih-Fang Hsieh – Conception of the work, Design of the work, Analysis of data, Interpretation of data, Drafting the work, Revising the work critically for important intellectual content, Final approval of the version to be published, Agree to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved

Guarantor of Submission

The corresponding author is the guarantor of submission.

Source of Support

None.

Consent Statement

Written informed consent was obtained from the patient for publication of this article.

Conflict of Interest

Author declares no conflict of interest.

Data Availability

All relevant data are within the paper and its Supporting Information files.

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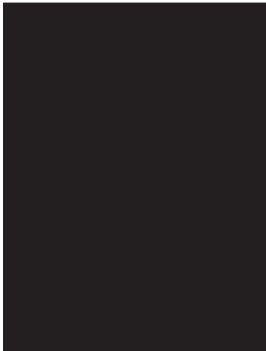
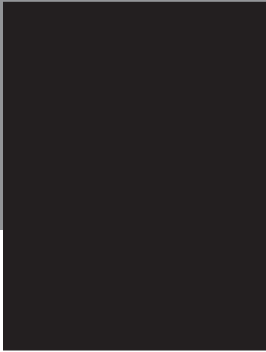
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