Interesting images

Incidental finding of hiatal hernia on $^{99m}$Tc-Sestamibi whole-body scan in thyroid cancer evaluation

Hallazgo casual de hernia de hiato en la gammagrafía de cuerpo entero con $^{99m}$Tc-sestamibi para la evaluación de un cáncer de tiroides


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**A R T I C L E  I N F O**

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A 75-year-old female with a papillary thyroid carcinoma underwent a total thyroidectomy. In our hospital the first postoperative evaluation includes a $^{99m}$Tc-Sestamibi and $^{131}$I whole-body scans after 1110 MBq (30 mCi) with ablative purposes. $^{99m}$Tc-Sestamibi scan revealed lower mediastinal pathological increased uptake, suggesting metastatic disease. Following withdrawal of her thyroid hormone replacement therapy, endogenous TSH levels were 49.5 mIU/L (normal range: 0.35–5.50 mIU/L), and thyroglobulin serum levels were 2.5 ng/ml (normal range: 2.2–43.5 ng/ml). $^{131}$I whole-body scintigraphy and SPECT showed intense uptake by

**Fig. 1.** Anterior (A) and posterior (B) views of $^{99m}$Tc-Sestamibi whole-body scan revealed no cervical bed uptake and an intense uptake of the radiotracer in the lower thoracic region (arrows) which may lead to the diagnosis of metastatic disease. Axial (C), sagittal (D) and coronal (E) thoracic SPECT images located this abnormal uptake in the lower thoracic midline (arrow heads).
thyroid remnant and a slight mediastinal uptake related to Sestamibi scan findings. The patient record revealed an asymptomatic hiatal hernia. $^{99m}$Tc-Sestamibi is mainly excreted to the duodenum via the hepatobiliary system. Patients with abnormal gastric conditions like hiatal hernia might present duodenal gastric reflux and bile regurgitation that can explain the radiotracer accumulation in the stomach. $^{99m}$Tc-Sestamibi radiochemical purity control showed a labeled efficiency of 98.1% that excluded the existence of free $^{99m}$Tc that may have been taken by gastric mucosa. $^{2}$ SPECT images helped to localize more precisely the uptake due to the hiatal hernia. In the evaluation of oncologic thyroid patient, hiatal hernia is the cause of possible false positive interpretation$^{3}$ (Figs. 1 and 2). To our knowledge Sestamibi uptake by hiatal hernia in an oncologic thyroid patient evaluation has not been previously reported.

References


Fig. 2. A CT scan of the chest showed a large intrathoracic hiatal hernia containing part of the stomach, which explains the radiotracer uptake.