Scintigraphic Identification of Gastric Tissue in a Mediastinal Mass

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ABSTRACT: We present a 99mTc pertechnetate scintigraphy performed in a 64-year-old woman to investigate a mediastinal cystic mass in search of residual gastric mucosa after gastrectomy. She had a history of esophagectomy and gastric pull-up for esophageal cancer. Postoperative leakage necessitated ablation of the gastric pull-up and reconstruction using part of the colon. Oral realimentation resulted in mediastinal pain and brownish discharge within the trachea, raising the suspicion of residual gastric pouch. SPECT/CT demonstrated increased tracer uptake in the median part of the mediastinal cyst, and a biopsy confirmed the presence gastric mucosa.

Key Words: gastric tissue, scintigraphy, 99mTc pertechnetate, SPECT/CT

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REFERENCES

FIGURE 1. We present the image findings of a $^{99m}$Tc pertechnetate scintigraphy performed in search of residual gastric mucosa after gastrectomy. A 64-year-old woman was referred to investigate a mediastinal cystic mass. She had a history of esophagectomy and gastric pull-up for esophageal cancer. Postoperative leakage necessitated ablation of the gastric pull-up and reconstruction using part of the colon. Oral realimentation resulted in mediastinal pain and brownish discharge within the trachea, raising the suspicion that this cyst was a residual gastric pouch. To confirm the presence of gastric mucosa, a $^{99m}$Tc pertechnetate scintigraphy was performed on a hybrid SPECT/CT camera. After injection of 189 MBq (5.1 mCi) of $^{99m}$Tc pertechnetate, a 20-minute dynamic acquisition centered on the thorax, in posterior view (A), illustrated an uptake in the upper right mediastinum increasing progressively over time (arrow), followed by 5 minutes planar images (B) showing a linear uptake of the tracer in the medial wall of the lesion (arrows). Transversal (C) and coronal (D) view of SPECT/CT demonstrated markedly increased tracer uptake in the median part of the mediastinal cyst. Based on the scintigraphic results, a CT-guided biopsy was performed within the median part of the lesion (E). Histological analysis confirmed the presence of residual antro-fundal gastric mucosa (F). The residual gastric pouch was consequently resected with right posterior thoracotomy, with regression of pain. The avidity of $^{99m}$Tc pertechnetate for gastric mucosa is well known and commonly used to detect ectopic gastric tissue in the context of Meckel's diverticulum. Precise location of the uptake thanks to SPECT/CT increased the yield of positive biopsy result.