

Scintigraphic Identification of Gastric Tissue in a Mediastinal Mass

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ABSTRACT: We present a ^{99m}Tc 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, ^{99m}Tc pertechnetate, SPECT/CT
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REFERENCES

1. Kim SH, Lee KS, Shim YM, et al. Esophageal resection: indications, techniques, and radiologic assessment. *Radiographics*. 2001;21:1119–1137; discussion 1138–1140.
2. Lerut T, Coosemans W, Decker G, et al. Anastomotic complications after esophagectomy. *Dig Surg*. 2002;19:92–98.
3. Nardella JE, Van Raemdonck D, Piessevaux H, et al. Gastro-tracheal fistula—unusual and life threatening complication after esophagectomy for cancer: a case report. *J Cardiothorac Surg*. 2009;4:69.
4. Urschel JD. Esophagogastronomy anastomotic leaks complicating esophagectomy: a review. *Am J Surg*. 1995;169:634–640.
5. Connolly LP, Treves ST, Bozorgi F, et al. Meckel's diverticulum: demonstration of heterotopic gastric mucosa with technetium-99m-pertechnetate SPECT. *J Nucl Med*. 1998;39:1458–1460.
6. Emamian SA, Shalaby-Rana E, Majd M. The spectrum of heterotopic gastric mucosa in children detected by Tc-99m pertechnetate scintigraphy. *Clin Nucl Med*. 2001;26:529–535.
7. Kiratli PO, Aksoy T, Bozkurt MF, et al. Detection of ectopic gastric mucosa using ^{99m}Tc pertechnetate: review of the literature. *Ann Nucl Med*. 2009;23:97–105.
8. Kumar R, Tripathi M, Chandrashekar N, et al. Diagnosis of ectopic gastric mucosa using ^{99m}Tc -pertechnetate: spectrum of scintigraphic findings. *Br J Radiol*. 2005;78:714–720.
9. Sfakianakis GN, Conway JJ. Detection of ectopic gastric mucosa in Meckel's diverticulum and in other aberrations by scintigraphy: I. Pathophysiology and 10-year clinical experience. *J Nucl Med*. 1981;22:647–654.

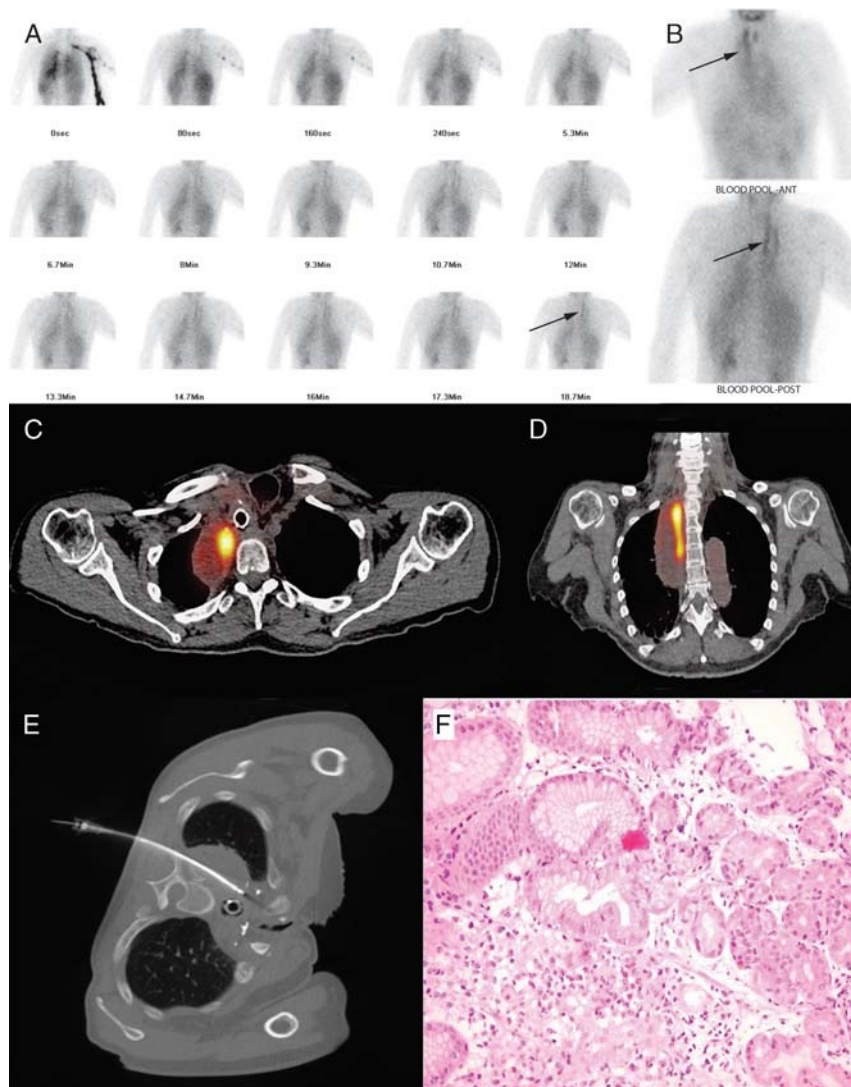


FIGURE 1. We present the image findings of a ^{99m}Tc pertechnetate scintigraphy performed in search of residual gastric mucosa after gastrectomy. A 64-year-old woman was referred to investigate a mediastinal cystic mass. She had a history of esophagectomy and gastric pull-up for esophageal cancer. Postoperative leakage necessitated ablation of the gastric pull-up and reconstruction using part of the colon.¹⁻⁴ 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.⁵⁻⁹ Precise location of the uptake thanks to SPECT/CT increased the yield of positive biopsy result.⁵