



Intrathoracic gossypiboma: a diagnostic challenge

We read with interest the case report titled “CT features of intrathoracic gossypiboma (textiloma)” by Karabulut et al. (1) published in the June 2011 issue of *Diagnostic and Interventional Radiology*. We want to add our experience with an intrathoracic gossypiboma that was diagnosed only after a transthoracic biopsy revealed cotton fibers, although there were typical features on computed tomography (CT) and ^{18}F -fluorodeoxyglucose positron emission tomography (FDG-PET), and emphasize that diagnosis of gossypiboma is often difficult.

A 56-year-old male patient complained of persistent fever, cough, sputum, and the loss of 8 kg body weight in two months. Chest radiographs obtained at a state hospital revealed a radio-opacity filling the right lung apex. FDG PET-CT showed high uptake in the rim of the mass, with

no uptake in the center (Fig. 1). Since malignancy could not be excluded, the patient was referred to our hospital for further evaluation. Contrast-enhanced CT showed a 10-cm-diameter, well-defined, heterogeneous, low-attenuating mass with gas bubbles in the center, surrounded by a thick, mildly enhancing capsule (Fig. 2a). We interpreted the lesion as a benign mass, such as an abscess, complicated hydatid cyst, or inflammatory pseudotumor. The patient underwent a transthoracic core biopsy to exclude malignancy. During the procedure, a 4–5-cm-long whitish cotton fiber was removed with the needle and that first raised suspicion of a gossypiboma. When we asked the patient about his surgical history, we learned that he had undergone surgery for esophageal diverticuli in 2002 and 2003. The mass was removed and cut open, revealing a surgical sponge (Fig. 2b). Histopathological examination showed a foreign body granuloma surrounding the sponge, confirming the diagnosis.

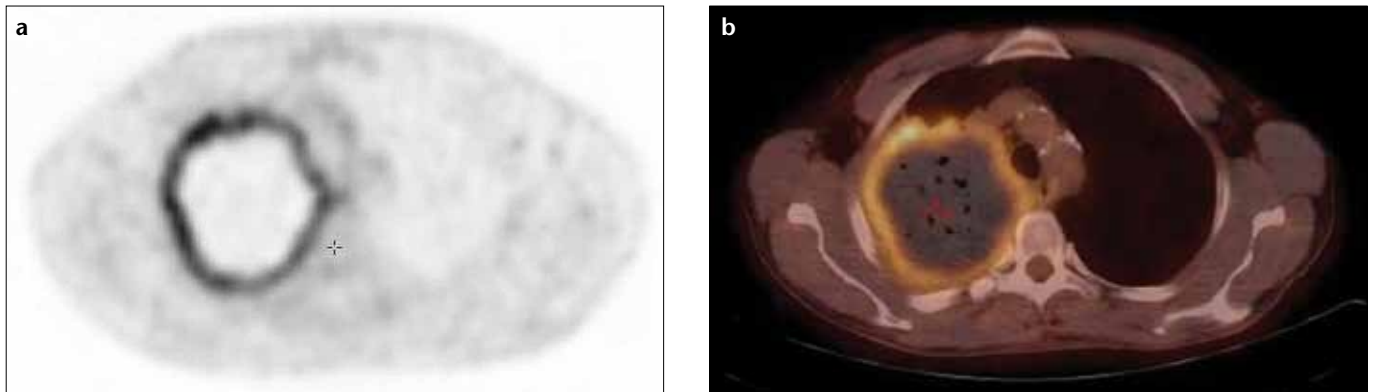


Figure 1. a, b. Transaxial FDG PET image (a) and FDG PET-CT fusion image (b) depict the high uptake in the rim of the mass without any uptake in the center.

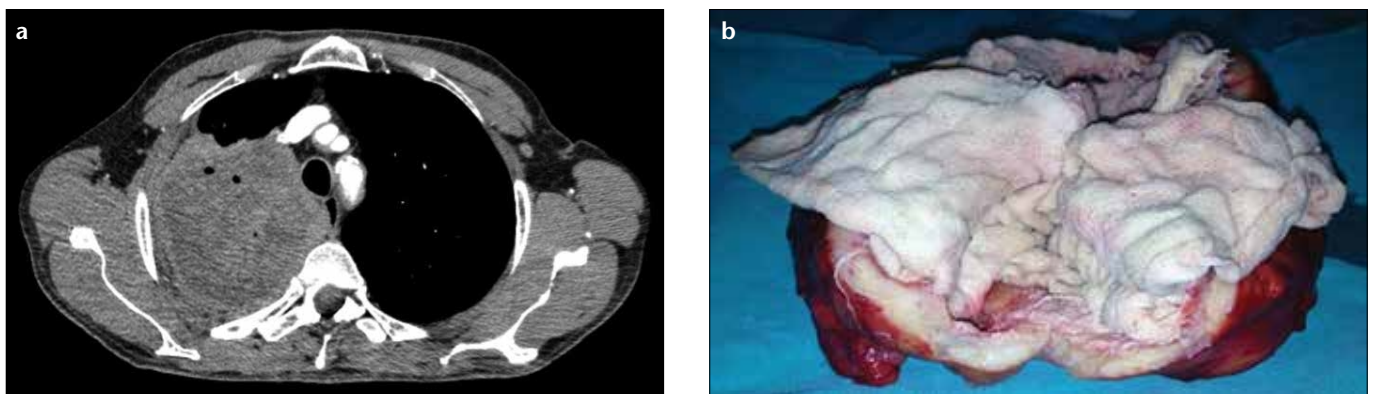


Figure 2. a, b. Axial contrast enhanced CT image (a) shows a 10-cm-diameter, well defined, heterogenous, low attenuating mass lesion in the right apical region with gas bubbles in the center surrounded by a thick, mildly enhancing capsule. Gross specimen photograph (b) of the cut mass lesion reveals a surgical sponge.

A gossypiboma is seen as a well-demarcated, rounded, soft-tissue mass of heterogeneous texture with gas bubbles (spongiform pattern) and a whirl-like pattern consisting of high-density wavy stripes on CT that show rim enhancement following intravenous contrast material injection (1, 2). On FDG-PET, it shows circular, rim-shaped FDG uptake representing the granuloma and a central nidus without FDG uptake indicating the cavity packed with blood clots and the retained sponge. This rim pattern is characteristic, but not specific, for gossypiboma (3).

In retrospect, our case had the typical presentation of gossypiboma with a spongiform pattern on CT and rim pattern on PET-CT, as described in the literature. The rarity of intrathoracic gossypibomas, inexperience, and unawareness of the surgical history caused the delay in diagnosis, even with the characteristic imaging findings. The diagnosis of gossypiboma can easily be missed due to the low index of suspicion and unawareness of imaging findings, leading to unnecessary

biopsies (2, 4) as in our case. We think that the use of modern radio-opaque labels will facilitate the diagnosis of gossypibomas, preventing unnecessary invasive procedures and decreasing its prevalence in the first place.

Consequently, gossypiboma should be considered initially in cases with the presence of a spongiform pattern on CT, rim pattern on FDG PET-CT, and a history of surgery. A biopsy is unnecessary in such cases.

Conflict of interest disclosure

The authors declared no conflicts of interest.

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