Endoscopic ultrasound-guided fine-needle aspiration of a pulmonary artery malignant thrombus

Transesophageal endoscopic ultrasound-guided fine-needle aspiration (EUS-FNA) has become a standard technique for sampling mediastinal disease. The need for transvascular sampling or sampling within major mediastinal vessels seldom arises [1]. Herein, we report a case of EUS-FNA of a pulmonary artery thrombus in a patient with pancreatic carcinoma that demonstrates the impact of EUS.

A 71-year-old woman with a history of tobacco use presented with epigastric pain of 3 weeks’ duration. Abdominal computed tomography revealed a 2.5-cm mass in the pancreatic head. A tissue diagnosis was obtained by EUS-FNA that was consistent with adenocarcinoma. Initial staging by abdominal and thoracic computed tomography and fluorodeoxyglucose (FDG) positron emission tomography-computed tomography (PET-CT) demonstrated locoregional disease, in addition to a mass-like region with considerably increased FDG activity in the left mediastinum and small lung nodules bilaterally (Fig. 1).

Because it was uncertain whether the site of primary disease was pancreatic or pulmonary, and in order to discuss the therapeutic strategy, the patient was referred to a tertiary center for EUS-FNA of the mediastinal mass. EUS was performed with a curvilinear echoendoscope (GF-UCT180; Olympus, Center Valley, Pennsylvania, USA). A pulmonary artery thrombus and a perivascular malignant-appearing process were identified (Fig. 2), and eight FNA passes were performed with a 22-gauge needle (Wilson-Cook Medical, Winston-Salem, North Carolina, USA) (Fig. 3, Video 1) via a transesophageal approach. No immediate or late adverse events were observed following EUS-FNA. The results of a preliminary on-site cytologic examination were suspicious for...
adenocarcinoma, and the final diagnosis
by immunohistochemistry (IHC) was
lung adenocarcinoma (Fig. 4). IHC of
the pancreatic tumor FNA cell block con-
firmed a primary pancreatic adenocarci-
noma (Fig. 5).
This experience further demonstrates the
impact of EUS and the feasibility and po-
tential safety of transvascular or intravas-
cular EUS-FNA of major mediastinal ves-
sels, avoiding more invasive measures
and directing clinical care in carefully se-
lected patients.

Video 1
Endoscopic ultrasound-guided fine-needle
aspiration of a pulmonary artery malignant
thrombus.

**Competing interests:** None
Fig. 5 Cell block from endoscopic ultrasound-guided fine-needle aspiration specimen, pancreatic mass. All images were acquired at ×400 magnification.

a Rare adenocarcinoma cells in a background of red blood cells and lymphocytes (hematoxylin and eosin stain [H&E] stain). b Rare adenocarcinoma cells present on smear (Papanicolaou [PAP] stain). Results of tumor cell immunohistochemistry: c negativity for thyroid transcription factor 1 (TTF-1); d negativity for napsin; e positivity for cytokeratin (CK7); f weak positivity for CK20. These findings support a diagnosis of pancreatic adenocarcinoma.

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DOI http://dx.doi.org/10.1055/s-0034-1393319
Endoscopy 2015; 47: E547–E549
© Georg Thieme Verlag KG
Stuttgart - New York
ISSN 0013-726X

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