

## Aortic wall rupture from a mediastinal tumor invasion diagnosed by endoscopic ultrasound

Rupture of the aorta from tumor infiltration is a rare event, described in only a few case reports to date [1–4]. It represents a life-threatening condition with the prognosis strongly dependent on its early recognition, which allows life-saving emergency interventional therapeutic procedures to be performed [5].

We present the case of a 57-year-old man with a posterior mediastinal mass who was referred for endoscopic ultrasound-guided fine-needle aspiration (EUS-FNA). During the procedure, a large parietal break in the posterior wall of the aorta was observed, which appeared to communicate with the inner part of the

mediastinal tumor. The vascular nature of the tumor was confirmed by color Doppler examination (● Fig. 1, ● Video 1). This finding had not been present on a thoracic computed tomography (CT) scan 2 weeks before the procedure.

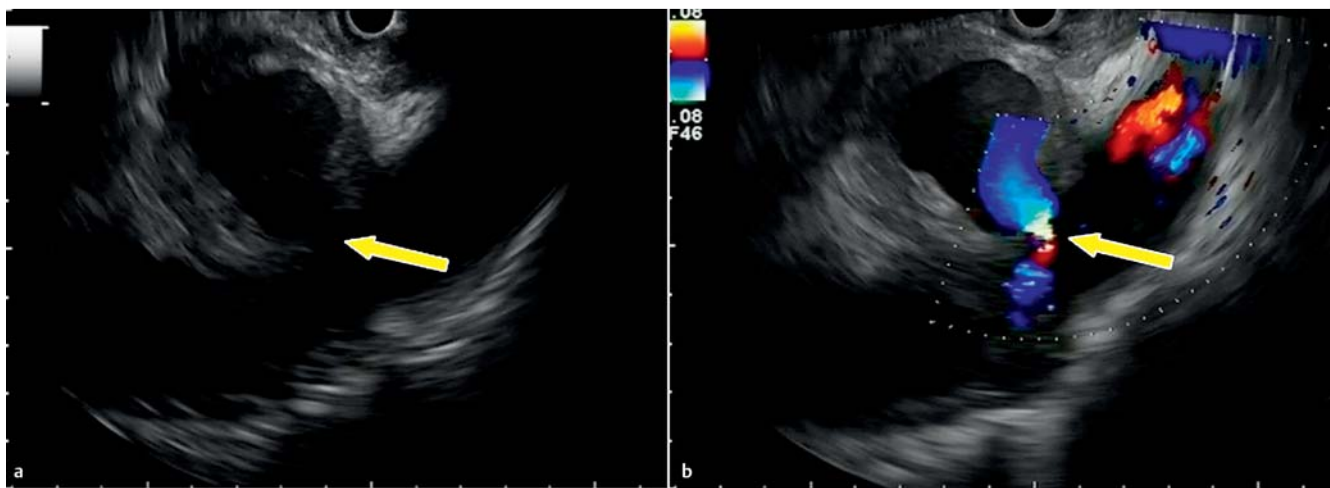
The EUS-FNA procedure was aborted and another chest CT scan was immediately performed, confirming the aortic pseudoaneurysm formation due to tumor invasion. Aortography with placement of two endoprosthesis was immediately carried out, with success. A repeat EUS 2 days later, with FNA of the tissue surrounding the now obliterated pseudoaneurysm (● Fig. 2), was performed using

a 25-gauge needle (● Video 1), and a diagnosis of high degree spindle cell sarcoma was made.

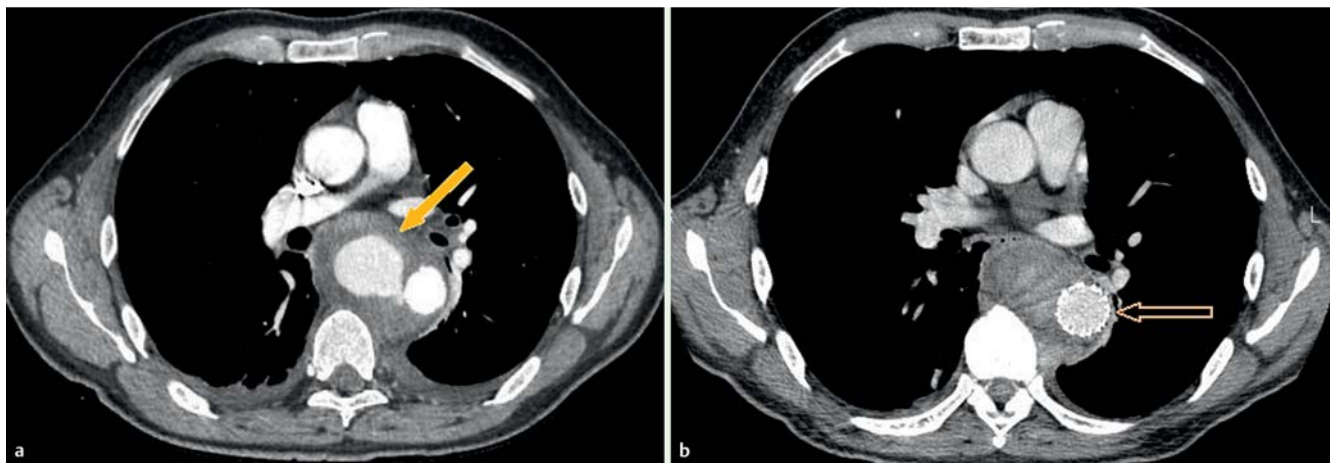
Vascular structures represent important landmarks during EUS examinations. Thus, endosonographers can incidentally detect abnormalities of the aorta or any other big vessel, which in some cases might be mistaken for a lesion of a different nature [6–8]. In the presented case, the use of EUS made it possible to diagnose aortic pseudoaneurysm formation, which constituted a “ticking time bomb” in this patient, making it essential to abort the risky endoscopic procedure (EUS-FNA), which could have become lethal [9]. The procedure was rescheduled only

### Video 1

Case study of a 57-year-old man with mediastinal tumor invasion into the aorta.



**Fig. 1** Endoscopic ultrasound view of the aortic wall defect (arrows) communicating with the inner part of the tumor. **a** B-mode. **b** Color Doppler examination.



**Fig. 2** Computed tomography of the chest showing pseudoaneurysm (yellow arrow) before and after endograft placement into the thoracic aorta (empty arrow). **a** Before endograft placement. **b** After endograft placement, which resulted in complete resolution of the pseudoaneurysm.

after this procedural risk had been reduced, as saving a life is undoubtedly infinitely more important than a tissue diagnosis.

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**Mihai Rimbaş<sup>1,2</sup>, Fabia Attili<sup>1</sup>,  
Alberto Larghi<sup>1</sup>**

<sup>1</sup> Digestive Endoscopy Unit, Catholic University, Rome, Italy

<sup>2</sup> Gastroenterology Department, Colentina Clinical Hospital, Bucharest, Romania

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## Bibliography

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## Corresponding author

**Alberto Larghi, MD, PhD**  
 Digestive Endoscopy Unit  
 Catholic University  
 Largo A. Gemelli 8  
 00168, Rome  
 Italy  
 Fax: +39-06-30156581  
[albertolarghi@yahoo.it](mailto:albertolarghi@yahoo.it)