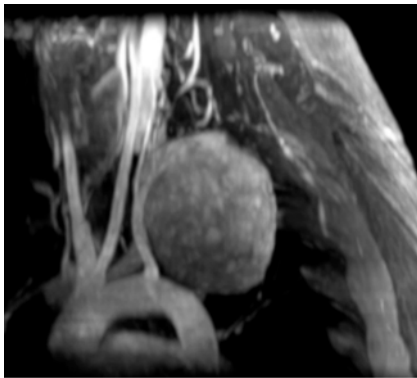


Contrast-enhanced endoscopic ultrasound and fine-needle biopsy of a rare mediastinal mass: a mediastinal schwannoma

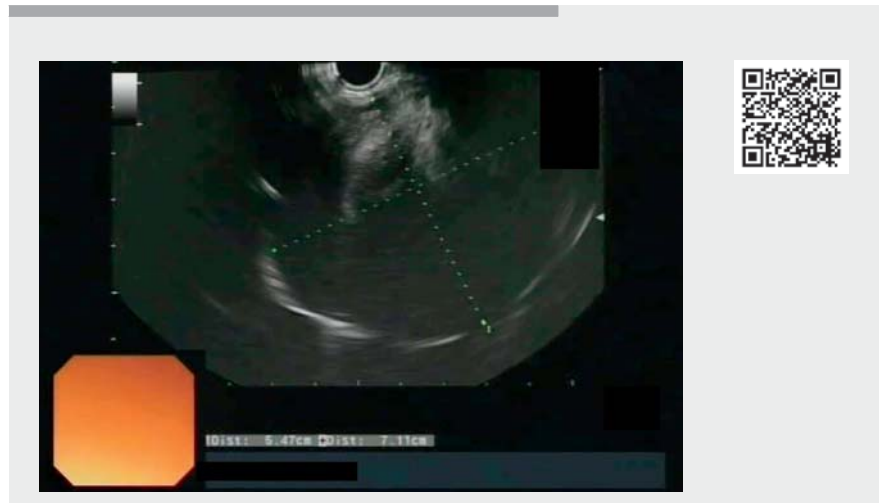
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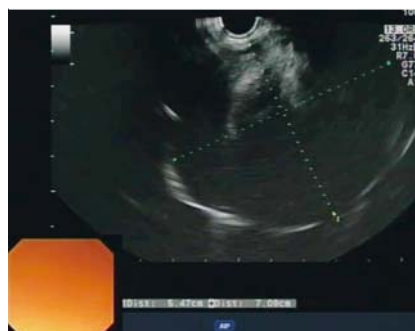
► **Fig. 1** Computed tomography 3D reconstruction with a nodular mass of approximately 7 cm in diameter in the left apical pleura with compression of the subclavian artery.

Contrast-enhanced endoscopic ultrasonography-guided fine-needle biopsy (CE-EUS-FNB) is an important, minimally invasive tool for the diagnosis of mediastinal masses. The specimen obtained allows a wider range of analyses to be performed and a better description of morphology and immunophenotype compared with fine-needle aspiration (FNA). The main advantages of CE-EUS include real-time imaging of microvasculature and microperfusion, and impressively good detail resolution [1].

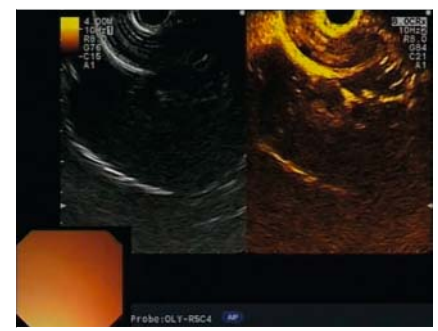
We present the case of a 20-year-old woman with Horner syndrome. On computed tomography scan, a nodular mass of approximately 7 cm in diameter in the left apical pleura was described, with compression of both the pulmonary parenchyma and subclavian artery (► **Fig. 1**). After multidisciplinary board discussion, it was decided that tissue sampling should be performed for histological definition (► **Video 1**). We performed CE-EUS, which revealed a 7-cm hypoechoic mass in close apposition to the aortic arch, left subclavian artery, and left common carotid artery (► **Fig. 2**), with diffuse and inhomogeneous hypo-enhancement following



► **Video 1** Contrast-enhanced endoscopic ultrasonography examination and fine-needle biopsy of a mediastinal schwannoma.



► **Fig. 2** Endoscopic ultrasound view of the lesion showing a 7-cm hypoechoic mass.

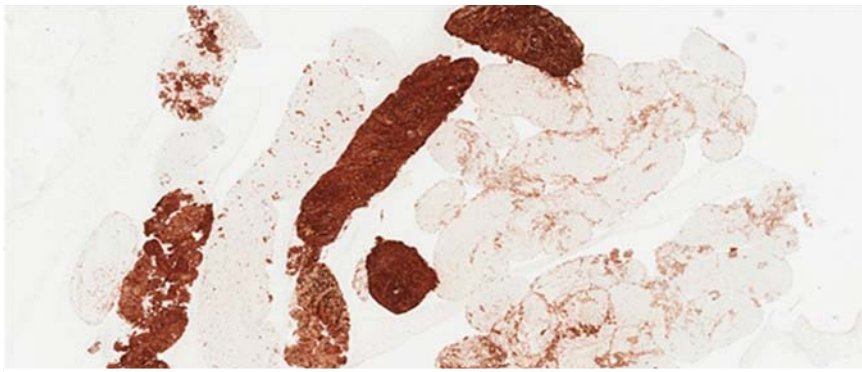


► **Fig. 3** Endoscopic ultrasound view of the lesion showing a diffuse and inhomogeneous hypo-enhancing pattern following contrast injection.

contrast injection (► **Fig. 3**) (Sonovue; Bracco, Milan, Italy). A transesophageal EUS-FNB was performed with a 22-G needle (SharkCore; Medtronic, Minneapolis, Minnesota, USA). Our pathologists defined the tumor as a benign peripheral nerve sheath tumor, most compatible with schwannoma, thanks to the features described by the wide range of immunohistochemical stains (positivity for S100, GFAP, SOX10, D2.40, and negativity for CAM5.2, CD117, MelanA, CD34) (► **Fig. 4**). Thus, the patient underwent a

thoracoscopic mass resection, with a regular postoperative course. The surgical specimen (► **Fig. 5**) confirmed the final diagnosis of schwannoma.

Mediastinal schwannoma is a rare mediastinal mass [2], and only a single case of EUS-FNA cytological diagnosis has been reported [3]. To the best of our knowledge, neither contrast-enhancement behavior nor endoscopic FNB has been described for this rare mediastinal lesion. Nevertheless, the histological specimen



► **Fig. 4** Tumor cells demonstrated strong and diffuse expression of S100 (original magnification $\times 3$).

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► **Fig. 5** Macroscopic appearance of the resected tumor in sections, with smooth surface and firm, light-tan tissue with focal patches of hemorrhage.

acquired by EUS-FNB allows for the use of a wider range of immunohistochemical stains, increasing the specificity of diagnosis. Furthermore, contrast-enhanced evaluation offers real-time guidance for EUS-FNB and is likely to increase sensitivity.

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Competing interests

The authors declare that they have no conflict of interest.

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