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Mediastinal paraganglioma. Diagnosis by cryoEBUS

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Clinical Images

Title: Mediastinal paraganglioma. Diagnosis by cryoEBUS

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A 67-year-old woman was being studied for thyroid carcinoma. A mediastonic nodular image was detected in the aortopulmonary window on a chest CT (Fig. 1A and 1B). PET-CT (Fig. 1C) and EBUS-TBNA needle puncture echobronchoscopy were performed with a 22 G needle, which were not diagnostic. A second echobronchoscopy with cryobiopsies was performed using the Ariza-Pallarés² technique (Fig. 1F), obtaining the anatomopathological diagnosis of paraganglioma (Fig.1D). The study was completed with thoracic MRI and SPECT-CT with somatostatin (Fig. 1E).

Paragangliomas are neuroendocrine tumors derived from the chromaffin cells of the extra-adrenal sympathetic system. These tumors may have neuroendocrine activity or be non-functional¹. From a clinical point of view, they may be asymptomatic, diagnosed incidentally, produce symptoms related to the production of catecholamines, or may give rise to symptoms due to compression of adjacent structures. Mediastinal paragangliomas are exceptionally rare, representing approximately 1% to 2% of paragangliomas and less than 0.3% of mediastinal masses^{3,4}.The diagnosis is usually established in many cases during the surgical procedure. In our case, the diagnosis could

be established prior to surgery by cryobiopsy with echobronchoscopy, being the first case documented in the literature of diagnosis using this method.

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Compulsory final declaration section for all manuscripts

- The authors declare not to have any conflicts of interest that may be considered to influence directly or indirectly the content of the manuscript

Artificial Intelligence Involvement

None

References

- 1.- Hsu Y-HR, Torres-Mora J, Kipp BR, Sukov WR, Jenkins SM, Voss JS et al. Clinicopathological, immunophenotypic and genetic studies of mediastinal paragangliomas. *Eur J Cardiothorac Surg* 2019;56:867–75
- 2.- Ariza Prota MA, Pérez Pallarés J, Barisione E, Onyancha S, Corcione N, Torres Rivas HE, Fernández Fernández L, García Clemente M, López González FJ. Proposal for a standardized methodology for performing endobronchial ultrasound-guided mediastinal cryobiopsy: a four-step approach. *Mediastinum*. 2024 Apr 29;8:30..
- 3.- Xu S, Hu G, Du J, Ma L, Zou L, Li Q. *Middle mediastinal paraganglioma: A case report and review of the literature. Medicine* 2023;102:47
- 4.- Kanj AN, Young WF, Ryu JH. Mediastinal Paraganglioma: A retrospective analysis of 51 cases. *Respir Med*. 2023 Sep;216:107296..

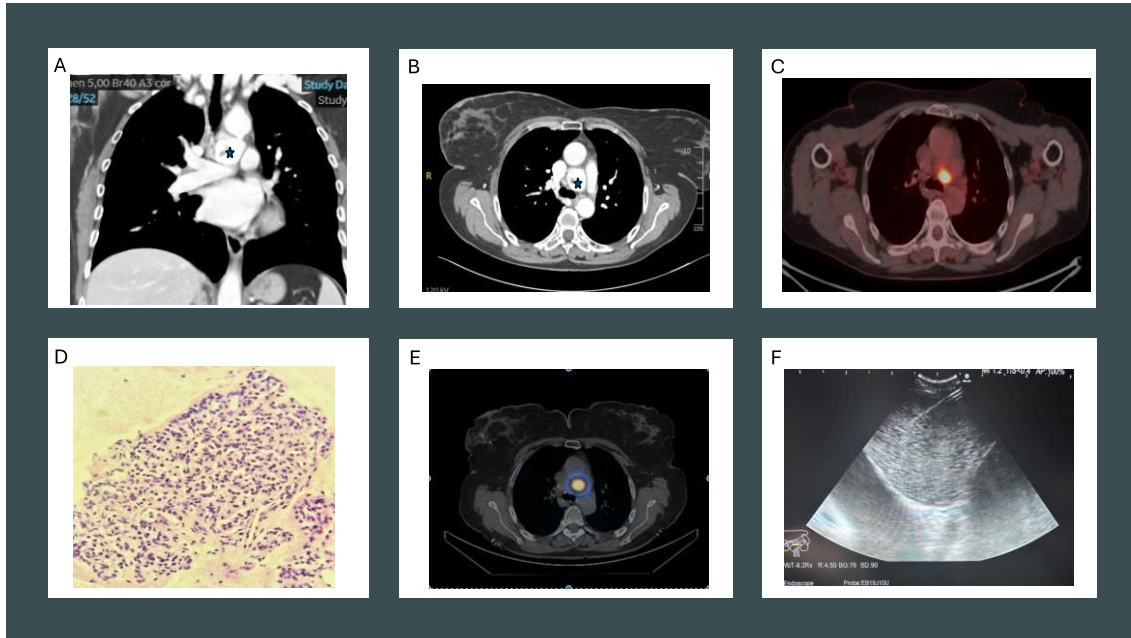


Figure1: Nodular lesión measuring 3,1x3,3cm in the aortopulmonary window. Chest CT axial and coronal sections (B and A), PET-CT with high uptake of the lesión (C), SPECT-CT with somatostatin uptake (E). Echobroncoschscopy image with cryoprobe inside the lesión (F). Sample cryobiopsy x40 magnifications hematoxylin-eosin (D)