

count of  $13.6 \times 10^9/l$  (normal values [NV]:  $4\text{--}11.5 \times 10^9/l$ ) with neutrophilia, hemoglobin 10.4 g/dl (NV: 13–18 g/dl) and hematocrit 32.8% (NV: 41%–50%),  $959 \times 10^9/l$  (NV:  $130\text{--}450 \times 10^9/l$ ) platelets and erythrocyte sedimentation rate (ESR) 110 mm/h (NV: <20 mm). Chest X-ray on admission showed parenchymal infiltrations in the posterior segment of the right upper lobe and apical region of the right lower lobe, with loss of volume and right pleural effusion (Fig. 1a). Thoracentesis was performed, and purulent fluid was obtained that was sent for culture. Wide-spectrum antibiotic treatment with linezolid and imipenem began and a chest tube was placed, to which fibrinolytics were added: 1500 cc of purulent fluid was drained. Chest computed tomography (CT) was performed (Fig. 1b), showing pulmonary infiltrate, pleural and atelectasis of the lung. Mixed flora were identified on a direct Gram stain of the specimen. Culture of the pleural fluid was positive for *A. aphrophilus* and *P. micra*, as identified by mass spectrometry (MALDI-TOF). On the basis of these results, the antibiotic treatment was scaled down to amoxicillin–clavulanate, which continued for 4 weeks. The patient's progress was satisfactory with clear improvement of the clinical picture.

Pleuropulmonary infections by *A. aphrophilus* are uncommon; indeed, since 1965 only 3 cases have been reported.<sup>2,3,6</sup> Our case is particularly unusual, due to the concomitant isolation of *P. micra*: an extensive search of the literature revealed only 1 case in which this microorganism was described as a causative agent of empyema.<sup>7</sup> This is the first report of such a case in Spain.

The initial presentation, radiological pattern and clinical course of our case are indistinguishable from infections caused by other microorganisms. The patient had a history of general decline over several months, along with predisposing factors, such as alcohol abuse and periodontal disease. He responded to standard antibiotic treatment, chest drainage and fibrinolytics.

To conclude, although *A. aphrophilus* and *P. micra* may be exceptional, they should be considered as causative agents of pleural

infection, particularly in patients with risk factors. The presentation, clinical management and clinical course were no different from empyema caused by more common microorganisms.

## References

1. Nørskov-Lauritsen N. Classification, identification, and clinical significance of *Haemophilus* and *Aggregatibacter* species with host specificity for humans. *Clin Microbiol Rev.* 2014;27:214–40.
2. Huang ST, Lee HC, Lee NY, Liu KH, Ko WC. Clinical characteristics of invasive *Haemophilus aphrophilus* infections. *J Microbiol Immunol Infect.* 2005;38:271–6.
3. Ratnayake L, Oliver WJ, Fardon T. *Aggregatibacter aphrophilus* in a patient with recurrent empyema: case report. *J Med Case Rep.* 2011;5:448.
4. Alpha CX, Guthmiller JM, Cummings HE, Schomberg LL, Noorani SM. Molecular analysis of *Peptostreptococcus micros* isolates from patients with periodontitis. *J Periodontol.* 2001;72:877–82.
5. Ubukata S, Jingu D, Yajima T, Shoji M, Takahashi H. A case of septic pulmonary embolism due to *Peptostreptococcus micros* with multiple infection of the head and neck. *Kansenshogaku Zasshi.* 2013;87:761–6.
6. Capelli JP, Savacool JW, Randall EL. *Haemophilus aphrophilus* empyema. *Ann Intern Med.* 1965;62:771–7.
7. Poetter C, Pithois C, Caty S, Petit V, Combiér JP, Mourtialon P, et al. Hiding behind confusion: pleural empyema caused by *Parvimonas micra*. *Surg Infect (Larchmt).* 2014 [Epub ahead of print].

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## Intrathoracic Schwannoma of the Vagus Nerve<sup>☆</sup>



### Schwannoma intratorácico del nervio vago

We report the case of patient diagnosed with intrathoracic vagus nerve schwannoma. Vagus nerve schwannomas are highly unusual. In the last 40 years, 30 cases at most have been reported, of which only 2 have been published in Spanish.<sup>1,2</sup>

A 74-year-old woman, with no significant clinical history, presented with clinical symptoms of dry cough, asthenia and dyspnea on minimal exertion. Standard chest X-ray showed mediastinal widening, so a computed tomography (CT) was performed, revealing a posterior, retrovascular, paratracheal mass in the mediastinum measuring 9.3 cm × 4.3 cm (Fig. 1A) extending to the carina, causing substantial dilation and right shift of the esophagus, but with no evidence of stenosis. The mediastinal mass showed pathological uptake on positron emission tomography (SUV 7.57). Endoscopic ultrasound revealed a well-defined hypoechoic lesion, containing heterogeneous areas, 30 cm from the dental arch, protruding into the submucosa. Fine needle aspi-

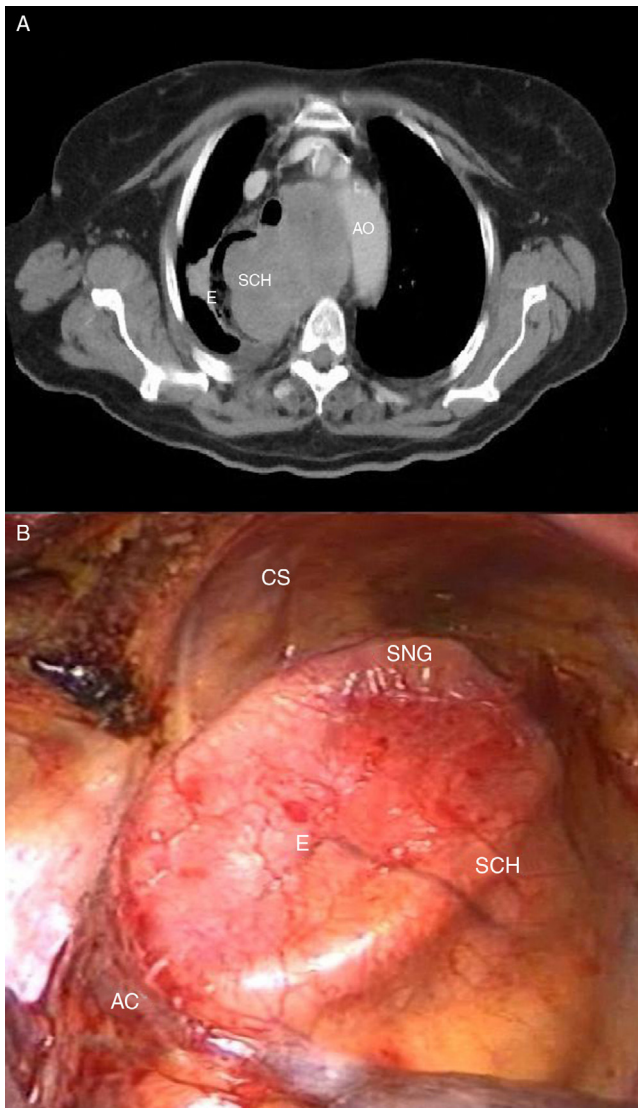
ration was performed, but the specimen was insufficient for diagnosis.

Fiberoptic bronchoscopy/endobronchial ultrasound showed extrinsic posterior compression of the trachea and carina, with no infiltration. Results from ultrasound-assisted biopsy confirmed fusocellular tumor, with low-grade malignant cytology, immunohistochemical study positive for S100, and negative CD34 and CD117.

A right posterolateral thoracotomy was performed, and a 10-cm tumor was found in the posterior mediastinum, adhering closely to the supracarinal esophagus, which was severely dilated (Fig. 1B). During resection of the tumor, the tracheal membrane was torn and repaired by suturing. In view of the close adhesion of the tumor to the esophagus, the mucosa was left exposed, so a 9 cm × 4 cm portion of the esophagus had to be resected *en bloque* with the tumor. The esophageal defect was repaired with separate sutures in the mucous membrane and the muscle layer. The vagus nerve could be preserved, although this was not a significant consideration in our surgical strategy. An esophageal transit study did not reveal any extravasation of contrast medium or difficulty in passage.

Diagnosis from the pathology laboratory was schwannoma extending to the tunica adventitia of the esophagus with no infiltration of the muscle layer. Surgical borders were completely free of disease.

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**Fig. 1.** (A) Computed axial tomography. Transverse slice of the chest at the level of the aortic arch. Schwannoma (SCH) and aortic arch (AO) can be seen. (B) Image obtained during surgery. Flattened esophagus (E), nasogastric tube (SNG), schwannoma (SCH), rib (CS) and azygos vein (AC).

Schwannoma is a tumor originating in the Schwann cells<sup>1</sup> that surround the peripheral nerve fibers of the nerve roots or peripheral nerves. It accounts for 20% of mediastinal cancers in adults, but 85%–90% of all tumors of the posterior mediastinum are schwannomas. Up to 80% of cases are asymptomatic, and diagnosis in young and middle-aged adults is generally fortuitous. Symptoms, when they occur, are due to local compression of the affected nerve or adjacent structures. Schwannomas are benign, encapsulated and well-delimited 98% of the time, but cases of very aggressive, locally invasive, malignant schwannomas that tend to relapse and metastasize have been described.<sup>3</sup> CT is useful for planning the surgical approach and a definitive diagnosis can be reached using immunohistochemical techniques.<sup>4</sup> Surgical resection via thoracotomy or video-assisted thoracoscopy is the treatment of choice in these neurogenic tumors, and can be considered curative, in view of the low relapse rate.

#### Conflict of Interests

The authors state that they have no conflict of interests. All the authors have read and approved the final manuscript.

#### References

1. Menal Muñoz P, García Tirado FJ, Rivas de Andrés JJ. Intrathoracic vagal nerve schwannoma. *Arch Bronconeumol.* 2011;47:374–5.
2. Heras F, Ramos G, Castanedo M, Cortejoso A, Duque JL, Yuste MG. Schwannoma of the intrathoracic vagus nerve. *Arch Bronconeumol.* 1997;33:360–2.
3. Singer RL. Thoracoscopic excision of a malignant schwannoma of the intrathoracic vagus nerve. *Ann Thorac Surg.* 1995;59:1586–7.
4. Ayud S, Shakoor MT, Hasan S, Khan JA. Mediastinal mass diagnosed as a benign schwannoma. *Singapore Med J.* 2011;52:e167–9.

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