

## Letters to the Editor

### Giant Functioning Mediastinal Parathyroid Cyst: An Unusual Cause of Exertional Dyspnea and Mild Dysphagia<sup>☆</sup>

#### *Quiste paratiroideo funcionante gigante de localización mediastínica: una causa insólita de disnea de esfuerzo y disfagia de carácter leve*

To the Editor,

In 2008, a 78-year-old man was referred to us for observation, after detecting a mediastinal mass with size progression located in the right hemithorax. The patient reported a 2-year history of mild dysphagia, associated with exertional dyspnea for the previous 6 months. His medical history included hypertension and inguinal hernia repair ten years earlier.

The physical examination was unremarkable; neck palpation in particular did not reveal cervical masses and the tracheal axis occupied the midline of the neck. Laboratory test results were normal, except for the serum calcium concentration, which was 14.2 mg/dl (normal 8.0–10.5 mg/dl) and phosphorus concentration, which was 1.9 mg/dl (normal 2.5–4.45 mg/dl). The serum parathormone (PTH) concentration was six times higher than the upper limit of normal. The spirometry was indicative of possible upper airway obstruction.

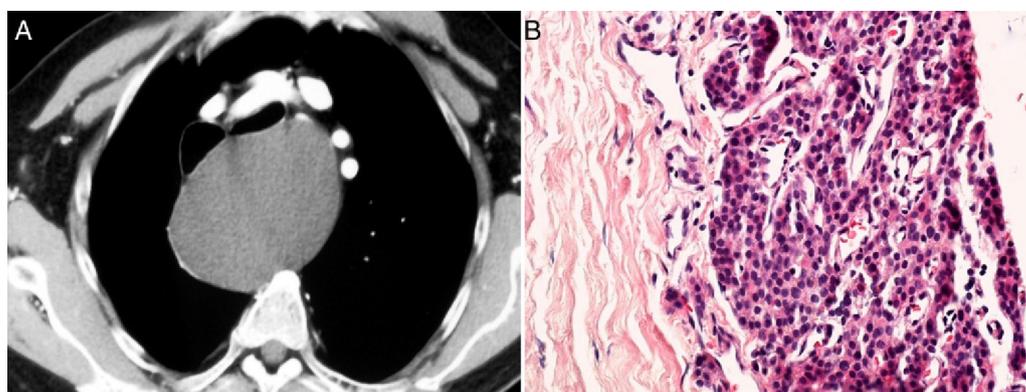
The chest radiograph showed the presence of a right mediastinal mass, displacing the trachea in an anterolateral direction.

Contrast esophagography revealed right lateral displacement of the cervical esophagus and superior mediastinum. Chest computed tomography (CT) was performed with contrast media, which showed the presence of a large mediastinal mass (12 × 14 cm) with no contrast enhancement, located in the posterior visceral compartment, causing anterior displacement of the large vessels and trachea, and right anterolateral displacement of the esophagus (Fig. 1A).

A possible clinical diagnosis of parathyroid cyst was established. Surgical resection was scheduled using a thoracotomic approach without preoperative fine needle aspiration of the cyst, in order to minimize the risk of mediastinitis and/or uncontrolled bleeding in the pleural space. The surgical strategy excluded video assisted thoracic surgery (VATS) due to the size of the cyst. We chose a classical posterolateral thoracotomy with muscle preservation, which allowed complete resection of the cyst with respect to the other mediastinal structures. Histopathological examination revealed a pseudocystic wall that included hypercellular parathyroid tissue (Fig. 1B).

The postoperative period was uneventful and the serum calcium concentration fell to 8.2 mg/dl. The patient was discharged 5 days postoperatively.

On the contrast esophagography, carried out 3 months later, there was no displacement of the cervical and thoracic esophagus or stenosis. During the following 12 months, the serum calcium level remained within normal limits, so a cervical examination was not performed.



**Fig. 1.** (A) The chest computed tomography with contrast medium shows a large mediastinal mass (12 × 14 cm) without contrast enhancement causing anterior displacement of the large vessels and trachea, and anterolateral displacement of the esophagus. (B) Histopathological examination revealed a pseudocystic wall, which contained hypercellular parathyroid tissue (hematoxylin–eosin staining, original magnification 400×).

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## Discussion

Mediastinal parathyroid cysts are relatively rare. These unusual lesions can present with locoregional clinical manifestations and, when they are active from a biochemical point of view, can also be associated with systemic symptoms. In 1925, de Quervain published the first case of satisfactory surgical resection of a parathyroid cyst in the mediastinal compartment,<sup>1</sup> although to date fewer than 150 cases have been described among published studies.

The non-specific symptoms are related with the appearance of a space-occupying lesion, such as the one described in this report. The cysts can cause dyspnea as a result of marked tracheal deviation or stenosis, or dysphagia due to esophageal compression or deviation.

The differential diagnosis is usually established by radiological examinations combined with laboratory tests, which show an increase in the serum calcium and/or PTH concentration.

In the context of a state of hyperparathyroidism, a functioning mediastinal cyst must be considered, so its resection should be performed with simultaneous cervical examination, which is easy to perform for cervical cysts infiltrating or located in the anterior mediastinum. For parathyroid cysts in the posterior mediastinal compartment that require thoracotomy, simultaneous cervicotomy appears to be overtreatment, and should only be considered after demonstrating persistent hyperparathyroidism after surgery.

No deaths have been documented among published studies, although the resection of giant cysts can rarely be associated with postoperative complications.<sup>2</sup> VATS has been described for the successful management of these cystic lesions, although all cases refer to small cysts located in the prevascular and anterior mediastinum.<sup>3–5</sup>

The exceptional nature of this report resides in the large size of the parathyroid cyst, which ruled out a VATS approach. However, it

was successfully resolved using a thoracotomic approach without any postoperative morbidity, which resulted in complete clinical resolution of the presenting symptoms.

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## References

1. De Quervain F. Epithe-Körperchen-Cysti. Schweiz Med Wochenschr. 1925;55:1169.
2. Shields TW, Immerman SC. Mediastinal parathyroid cysts revisited. Ann Thorac Surg. 1999;67:581–90.
3. Shibata Y, Niwa H, Yamada T, Kani H, Maemoto K, Mizuno T. Mediastinal parathyroid cyst: a case resected under video assisted thoracoscopic surgery. Jpn J Chest Surg. 1998;12:676–80.
4. Oyama T, Imoto H, Yasumoto K, Toyoshima S, Nagashima A. Mediastinal parathyroid cyst: treatment with thoracoscopic surgery. A case report. J UOEH. 1999;21:317–23210.
5. Alesina PF, Moka D, Mahlstedt J, Walz MK. Thoracoscopic removal of mediastinal hyperfunctioning parathyroid glands: personal experience and review of the literature. World J Surg. 2008;32:224–31.

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## Respiratory Infection Caused by *Bordetella hinzii*<sup>☆</sup>

### Infeción respiratoria por *Bordetella hinzii*

To the Editor,

*Bordetella hinzii* is a species isolated in poultry with respiratory disease, and has occasionally been described in humans. We present the case of an 85-year-old woman with respiratory symptoms consisting of cough, expectoration and dyspnoea on moderate exertion of several days duration. Sputum culture was requested from her primary care centre. It was inoculated in blood agar, chocolate agar and MacConkey agar (Oxoid®). The sample quality was considered optimal after Gram staining, with abundant polymorphonuclear leukocytes and Gram negative bacilli found on examination. After 24h incubation at 35 °C, profuse growth of two types of colonies was detected on all three media. Two colony morphologies were observed on the MacConkey agar: a pinkish, mucoid colony, and a second colourless colony. Identification performed using the MALDI-TOF-MS biotyper 3 system classified them as *Klebsiella oxytoca* and *B. hinzii*, the latter with an index of 2.241, which is considered optimal for genus and

species. Molecular confirmation was carried out by sequencing 500 base pairs of the 16S rRNA gene<sup>1</sup> and comparing the sequence obtained with those banked in GenBank, using the NCBI BLASTn algorithm. Ninety-nine percent homology with other existing *B. hinzii* strains was obtained, including *B. hinzii* strain LMG 13501.<sup>1</sup> The antibiotic treatment prescribed in the emergency department at discharge was amoxicillin–clavulanate 2000/62.5 mg every 12 h. Antibiotic susceptibility testing performed using the WalkAway® system microdilution panel (Siemens) found sensitivity to the following antibiotics: amoxicillin–clavulanate (MIC≤8/4 µg/ml), azithromycin (MIC=1.5 µg/ml), piperacillin–tazobactam (MIC≤8 µg/ml), gentamicin (MIC=4 µg/ml) and levofloxacin (MIC≤1 µg/ml); intermediate sensitivity to: ampicillin–amoxicillin (MIC=16 µg/ml) and ciprofloxacin (MIC=2 µg/ml), and resistance to cefuroxime (MIC>16 µg/ml), tobramycin (MIC>8 µg/ml) and trimetoprim–sulfametoxazol (MIC>4/76 µg/ml). Since *B. hinzii* was first described in 1994,<sup>1</sup> isolates have been reported in respiratory samples from three patients. In one patient with cystic fibrosis, *B. hinzii* was isolated sequentially in sputum for a period of 3 years,<sup>2</sup> together with *Staphylococcus aureus* in all samples except two, where it was the only microorganism isolated. It was also isolated in the bronchoalveolar lavage of a patient with acquired immunodeficiency virus (HIV), together with *Nocardia asteroides*.<sup>3</sup> In this case, there were symptoms of respiratory infection, as in our patient. The aetiological role of *B. hinzii* may be questioned in our case, as *K. oxytoca* was cultured in par-

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