Transcervical Resection of an Ectopic Mediastinal Parathyroid Adenoma

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A 81-year-old man was incidentally found to have a posterior mediastinal lesion measuring 25 × 19 mm behind the trachea and lateral to the esophagus on computed tomography of the chest (Fig 1A, arrow). Parathyroid scintigraphy with $^{99m}$Tc-MIBI (technetium with the ligand methoxyisobutylisonitrile) showed persistent focal activity in the posterior mediastinum along the left lateral aspect of the esophagus (Fig 1B, arrow). Bronchoscopic examination showed a protrusive mass beneath the membranous part of the trachea, which was remarkably elevated in the expiratory phase. The endobronchial ultrasound convex probe showed a multicystic posterior mediastinal mass with minimal vascularization by the Doppler mode imaging. The result of following endobronchial ultrasound–guided transbronchial needle aspiration of the lesion (Fig 1C, arrow), was consistent with a parathyroid tumor. Endocrinologic studies revealed a primary hyperparathyroidism with an intact parathyroid hormone level of 66.1 pmol/L (normal range, 1.3–7.6 pmol/L). The serum level of calcium indicated mild hypercalcemia (2.83 mmol/L) and the phosphate level was slightly decreased (0.65 mmol/L). A bone mineral density scan showed no abnormality.

A transcervical minimally invasive endoscopic surgical approach through a 2.5-cm cutaneous incision, one fingerbreadth above the sternal notch, revealed on the left side of the mediastinum, between the posterior wall of the trachea and on the left side of the esophagus, an orange-tan ovoid lesion. The soft lesion was easily removed, after recognition of the homolateral common carotid artery, by blunt dissection with the finger. The specimen (Fig 1D) was an encapsulated mass measuring 3.8 × 2.6 × 1.5 cm. The pathologic diagnosis was parathyroid adenoma. Immediately after operation, the intact parathyroid hormone level reverted to normal values (2.0 pmol/L) in this challenging case of subclinical primary hyperparathyroidism. Mediastinal parathyroid tumor is relatively rare [1] and can be resected by a transcervical [2] or a thoracoscopic approach [3]. We were able to successfully diagnose and treat the octogenarian patient in a minimally invasive way.

References