Primary pulmonary paraganglioma

A rare cause of solitary pulmonary nodule

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A 62-year-old asymptomatic male patient, heavy smoker, was referred to our department for investigation of solitary pulmonary nodule (maximum diameter 2 cm) (Figure 1). The nodule had mild 18F-FDG uptake (SUVmax:1.9) in PET/CT scan (Figure 2). Histopathological examination revealed a pulmonary neoplasm of neuroendocrine origin, with specific morphological and immunohistochemical characteristics consistent with the diagnosis of paraganglioma (Figure 3).

Paragangliomas are rare tumors also known as "extra-adrenal pheochromocytomas" and consist 5% to 10% of all pheochromocytomas. The lesions may have malignant behavior, defined as invasive growth in histological examination, and/or lymph node or other distant metastases, in less than 15% of cases.

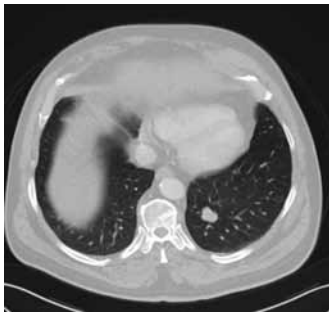

FIGURE 1. A solitary pulmonary nodule with well-defined and lobulated margins was found at the left lower lobe (Chest CT scan).

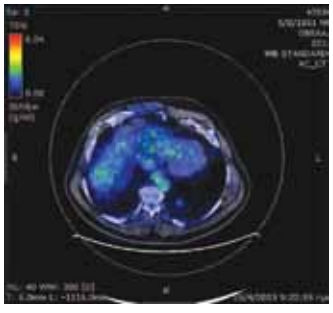

FIGURE 2. The nodule had mild 18F-FDG uptake (SUVmax:1.9) in PET/CT scan.

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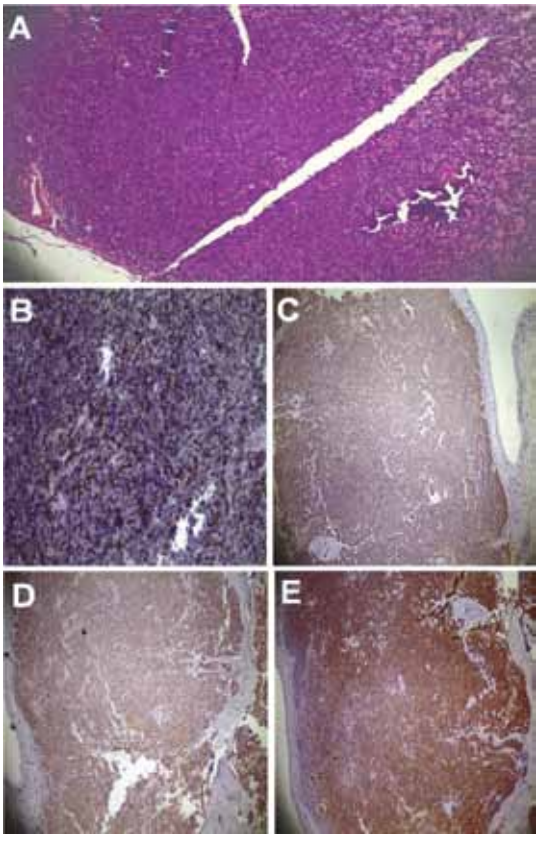

FIGURE 3. Histological features of primary paraganglioma of the lung. The neoplastic tumor had a compact growth pattern and consisted of a homogeneous group of neoplastic cells with oval or spindle-shaped nuclei lacking mitotic activity (Panel A) (A-H, x100). Immunohistochemical stains (x100) were performed and tumor cells were positive for S-100 (Panel B), chromogranin (Panel C), synaptophysin (Panel D) and CD56 (Panel E), but negative for TTF and pankeratin.