Interesting image

Contribution of V/Q lung scan to the diagnosis of esophageal carcinoma

Aportación diagnóstica de la gammagrafía pulmonar de V/Q en un caso de carcinoma esofágico

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A R T I C L E   I N F O

Article history:
Received 12 March 2012
Accepted 6 April 2012

A 57-year-old patient was admitted to the emergency department for a clinical picture of intermittent chest pain, dysphonia and respiratory stridor, having received antibiotic treatment with poor therapeutic response. The only imaging study performed had been a chest X-ray interpreted as normal. The patient had an important history of alcoholism and smoking (>45 packs/year). On clinical suspicion of pulmonary thromboembolism (PTE), a V/Q lung scintigraphy was requested (Fig. 1).

The scintigraphic study demonstrated a low probability of acute PTE. In the ventilatory phase of the scan (Technegas) an important focal retention of radiolabeled particles was observed at the tracheal-bronchial level, thereby suggestive of ruling out extrinsic air flow compression above the bronchial bifurcation.

A CT scan of the thorax (Fig. 2) was performed, showing a retrotracheal mass of 3.8 cm × 5.4 cm × 5.9 cm, with invasion of the posterior wall of the distal third of the trachea until 1 cm from the carina and invasion of the esophagus.

Esophagoscopy and fibrobronchoscopy confirmed that the mass produced irregular esophageal stenosis 20 cm from the dental arch, with occlusion of 75% of the tracheal lumen. Biopsy of the endoluminal esophageal tumor and the trachea demonstrated an epidermoid carcinoma of the upper third of the esophagus T4N0M0.

Epidermoid carcinoma is the most frequent primary malignant tumor of the esophagus. The most widely accepted etiological factors are alcohol and smoking and approximately 10–15% are localized in the upper third of the esophagus. The most usual symptoms of presentation are progressive mechanical dysphagia and weight loss, although it may also debut with odynophagia, chest pain, episodes of bronchoaspiration and dysphonia.

V/Q lung scintigraphy is an imaging procedure of great utility in the diagnosis of PTE. The technique, which has had few technical modifications, has been implemented in the Departments of Nuclear Medicine since the 1960s. During its evolution, the increase in the sensitivity and specificity of the technique induced by methodological changes with the introduction of the use of ultrafine particles of $^{99m}$Tc-graphite (Technegas) and the use of SPECT is of note.

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Fig. 1. V/Q lung scintigraphy showing an important retention of radiogas in the tracheal immediately above the bifurcation.

In the present case, observation of airway obstruction as an incidental finding suspected by ventilation scintigraphy demonstrates the added value which this technique contributes to the screening of other types of pathologies, even extrapulmonary, since V/Q lung scintigraphy definitively indicated the diagnosis in this patient.

References