Unusual case of cannonball opacities

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DESCRIPTION
A 50-year-old man diagnosed with epidermoid laryngeal carcinoma with local invasion (pT4aG3N0) was submitted to laryngectomy with complete ganglionic resection and postsurgery radiotherapy. Five months later, he went to the emergency room for left thoracic chest pain with dyspnoea and cough. Thoracic radiography showed multiple bilateral nodular lesions with an aspect resembling cannonball opacities (figure 1A). He was admitted for study. Thoracic CT scan demonstrated large, round, well-circumscribed and multiple pulmonary nodules, some with cavitations, with maximum dimensions of 85 mm at the right lung and 48 mm at left side (figure 1B; videos 1 and 2). Broncholobroscopy identified endobronchial masses of which histology confirmed the diagnosis of epidermoid carcinoma. Baciloscropy and cultural analysis for Mycobacterium spp were negative. Patient was oriented for chemotherapy with cisplatin, fluorouracil and cetuximab. Despite these measures, the patient died after the second cycle.

Cannonball opacities usually correspond to metastases classically associated with renal cell carcinoma, choriocarcinoma, endometrial cancer, prostate cancer and some gastrointestinal malignancies. Its presence usually indicates disseminated disease and poor prognosis, though rare reports of favourable prognosis are also available. Laryngeal carcinoma metastases are most typically noted locoregionally to the cervical lymph nodes. Distant metastasis are seen much less frequently and the most common site of distant metastases from laryngeal cancer is the lung. In these cases, the 5-year survival rate is about 33%. To our knowledge, this is the first reported case of cannonball metastases secondary to laryngeal epidermoid carcinoma. Though the presence of cannonball opacities always demand the diagnostic workup searching for a primary site of malignancy, differential diagnoses include tuberculosis, fungal infections and vasculitis. There, these diseases should also be ruled out. In the case of the patient, due to its past, the hypothesis of a neoplasia was the most probable. Nevertheless, tuberculosis was also excluded. Cannonball opacities due to tuberculosis in normal individuals is rare, but in immunocompromised conditions such as diabetes, anaemia, chronic liver disease, renal diseases and in patients on immunosuppressive drugs it may occur. In immunocompromised individuals, fungal conditions as histoplasmosis, pulmonary cryptococcosis and nocardiosis may mimic metastatic lesions by having similar radiographic findings. Parasite diseases as hydatidosis may also present as multiple cystic lesions with air crescent or masses with well-defined margins more commonly in lower lobes of lung. Wegener granulomatosis which is a necrotising vasculitis that classically manifests as a clinical triad comprising of upper and lower airway involvement with glomerulonephritis can also present with cannonball metastases. Other vasculitis associated with this pattern are sarcoidosis and rheumatoid nodules.

This case represents a rare and fast pattern of metastases originated from a laryngeal carcinoma with impressive radiological findings.
Learning points

► This case reminded us that despite the fact that laryngeal carcinoma disseminated more usually locally, distant metastasis is possible. Therefore, there is a need of close monitoring of these patients.
► Since the patient had previously been submitted to surgery and radiotherapy with a curative intention, it was not expected this fast and aggressive disease progression. Therefore, there is a need of close monitoring of patients with head and neck cancer.
► Cannonball opacities usually correspond to metastases associated with renal cell carcinoma, choriocarcinoma, endometrial cancer, prostate cancer and some gastrointestinal malignancies. Differential diagnosis includes tuberculosis, fungal infections and granulomatosis with polyangiitis.
► Cannonball metastases are usually associated with a bad prognosis.

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REFERENCES