Unusual laryngeal metastasis of lung adenocarcinoma

Métastase laryngée d'un adénocarcinome du poumon

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ABSTRACT

Objective: The aim was to insist on the main clinical and histological presentations of laryngeal metastasis of lung adenocarcinoma and to discuss the possible treatment modalities reported in the literature.
Observation: We report the case of 50 year old male presented with permanent dysphonia and intermittent dysphagia evolving for 10 months. The first exploration was negative. And the patient was lost to follow-up. He reconsulted after two years for bone pain.
The neck CT scan found an anterior cervical mass which invaded the larynx at the level of the glottic and supra-glottic regions. The chest CT scan showed a peripheral parenchymal pulmonary mass of the apical segment of the right superior lobe. A right adrenal mass and femoral lytic lesion was also found in the CT scan.
A biopsy of the laryngeal mass with immunohistochemistry analysis concluded to a lung adenocarcinoma. The patient had an emergency tracheostomy and chemotherapy but he had a metastatic evolution.
Conclusion: Head and neck metastases from primary lung tumors are extremely rare. Some case reports have been described in the literature. Patients with metastatic involvement of the larynx usually have a poor prognosis.
Keys words: Metastasis, Larynx, Adenocarcinoma, Lung

RÉSUMÉ

Objectif: L'objectif est de décrire les caractéristiques cliniques et histologies des métastases laryngées de l'adénocarcinome pulmonaire et de discuter des modalités de traitement possibles rapportées dans la littérature.
Observation: Nous rapportons le cas d'un homme âgé 50 ans qui a consulté pour une dysphonie permanente et une dysphagie intermittente évoluant depuis 10 mois. Les explorations de première intention était négatives. Le patient a été perdu de vue. Il a réconsulté après deux ans pour des douleurs osseuses.
Le scanner cervical a retrouvé une masse cervicale antérieure qui envahissait le larynx au niveau du plan glottique et du plan supra-glottique. Le scanner thoracique a montré une masse pulmonaire parenchymateuse périphérique du segment apical du lobe supérieur droit. Une masse surrénale droite et une lésion lytique fémorale ont également été retrouvées.
Une biopsie de la masse laryngée avec analyse immunohistochimique a conclu à une métastase laryngée d'un adénocarcinome pulmonaire. Le patient a eu une trachéotomie d'urgence et une chimiothérapie. L'évolution était marquée par l'apparition d'autres métastases à distance.
Conclusion: Les métastases des tumeurs pulmonaires primitives au niveau du larynx sont extrêmement rares. Quelques cas ont été rapportés dans la littérature. L'évolution est souvent de mauvais pronostic.
Mots clés: Métastase, Larynx, Adenocarcinoma, Poumon

INTRODUCTION

Laryngeal metastases are uncommon and account for less than 1% of all laryngeal tumors [1]. They are described mainly in melanomas and renal cell carcinoma. Laryngeal metastasis from lung cancer is rarely described and difficult to diagnose given that laryngeal metastasis can be taken for a primary tumor, mostly when the presenting signs and symptoms rather point towards a primary laryngeal cancer (dysphagia, dysphonia). The histological study with immunochemisty markers is essential in order to correct the diagnosis.
The aim of this case report presentation was to insist on the main clinical and histological presentations of laryngeal metastasis of lung adenocarcinoma and to discuss the possible treatment modalities reported in the literature

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OBSERVATION

A 50 years-old male presented with permanent dysphonia and intermittent dysphagia evolving for 10 months. He smoked about 50 cigarette packs a year. He didn't have a nodes involvement .The laryngoscopy found a smooth and whitish formation taking the ventricular bands and left vocal cord, normal mobility for vocal cord. Cervical CT scan showed a mass of the 3 regions of the larynx with lysis of the thyroid cartilage and infiltration in the sub hyoid muscles. Multiple biopsies of this lesion were negative without evidence of tumor proliferation. The patient was lost to follow-up and consults 2 years later for bone pain. The neck CT scan found the anterior cervical mass which invaded the larynx at the level of the glottic and supra-glottic regions (Figure 1). The chest CT scan showed a peripheral parenchymal pulmonary mass of the apical segment of the right superior lobe, mesuring 25x14mm (Figure 2). A right adrenal mass and femoral lytic lesion was also found in the CT scan.

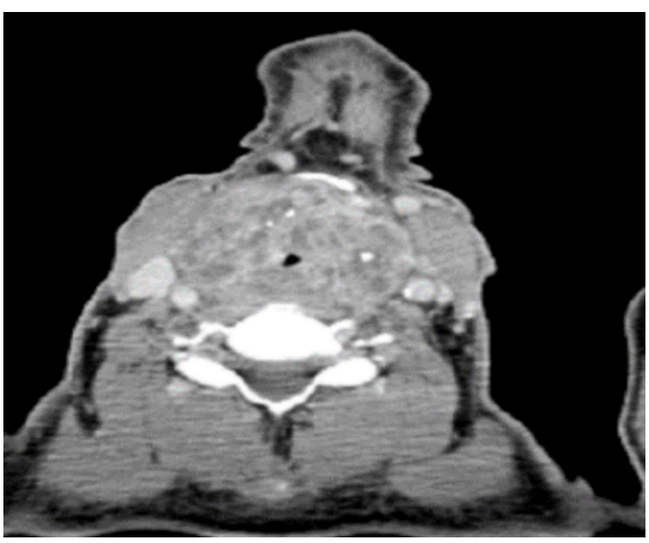

Figure 1: The anterior cervical mass which invades the larynx at the level of the glottic and supra-glottic regions

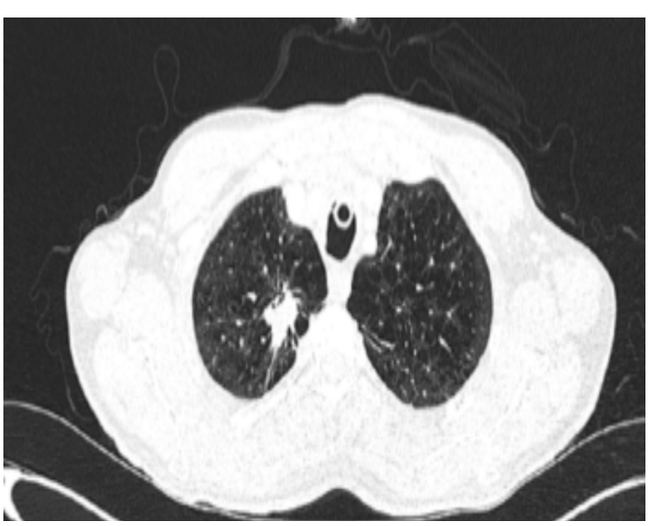

Figure 2: **A peripheral parenchymal pulmonary** mass of the apical segment of the right superior lobe, mesuring 25x14mm

The fibroscopy was normal, and the CT-guided biopsy of the lung tumor was not accessible. The patient had a biopsy of the laryngeal mass. The hisological and immunohistochemistry analysis concluded to a lung adenocarcinoma (CK7+ TTF1 + P63- CK20-). The patient had an emergent tracheostomy for dyspnea and chemotherapy was started (Cisplatin-Navelbin). After 4 cycles, he presented a radiological progression of his lung tumor. He had second-line chemotherapy with Taxotere. After 9 cycles, liver metastasis was found in the CT-scan. He had a Gemcitabin regimen. After 4 cycles, he presented a radiological progression in his lung tumor and cerebral metastasis was found in the CT-scan. The Patient had a cerebral radiation therapy then he died after one month.

DISCUSSION

Although lung adenocarcinoma often accompanied metastasis to the brain, liver, kidneys, bone, bone marrow and adrenal glands, it can also make metastasis to the head and neck region rarely [2-4].

Metastatic tumors of the larynx are uncommon and may pose a diagnostic challenge, especially when the laryngeal lesion is the sole clinical manifestation. Till the 90's, only 16 cases of metastatic laryngeal tumors from primary lung cancer had been reported [5].Another case report of metastatic squamous cell carcinoma to the larynx from primary lung cancer was published in 2015[6].

Larynx is a terminally located organ with regard to lymphatic and vascular circulation. This fact likely explains why it is a rare site of metastases from tumors to there primary sites. The supraglottic and subglottic regions are the common locations for laryngeal metastases, as these sites have a rich lymphatic and vascular supply. In our patient, the location of the metastatic laryngeal nodule was the 3 regions. The pathway for primary pulmonary tumor metastasis to the larynx could be either hematogenous or via lymphatics. A hematogenous spread may occur in an orderly fashion from the right heart to the left heart, coursing through the aorta and external carotid artery before eventually reaching the larynx through the upper thyroid artery and upper laryngeal artery.

A retrograde route is also possible via the vertebral venous plexus [1]. Retrograde lymphatic spread to the supra-glottic larynx from the thoracic duct can occur via the left supra clavicular and internal jugular chain nodes. There are lymphatic vascular interconnections of the lymphatics of the supra-glotticspace, which communicate with the superior laryngeal vessels [7]. Signs and symptoms of metastatic laryngeal tumors do not differ from primary laryngeal tumors and vary according to the site and the size of involvement. This is one of the difficulties to have the right diagnosis. Moreover, our patient didn't had a chest exploration when he first consulte date the start of the symptomatology.

Metastasis from bronchogenic carcinoma can be clinically silent or may be the presenting manifestation.

The management of larynx metastasis is not specific. Palliative laser resection of the metastatic laryngeal growth has been attempted, to treat symptomatic airway obstruction, with minimal morbidity [8]. In some patients, with significant laryngeal obstruction, like in our case, tracheostomy may also be required [9]. .

CONCLUSION

This case report indicates that the larynx can be a target for cancer metastasis from other organs and the necessity of investigating the primary neoplasm where a laryngeal neoplasm has been found to be a non-squamous cell carcinoma.

Patients with metastatic involvement of the larynx usually have a poor prognosis, as involvement of the larynx might be a pointer toward widespread lymphohematogenous dissemination.

Compliance with ethical standards

Conflict of interest: The authors stated that there is no conflict of interest.

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