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(CASE REPORT)

A parotid gland mass as an initial metastatic manifestation of lung adenocarcinoma

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Abstract

We report the case of a 57-year-old chronic smoking patient who presented with a parotid mass associated with peripheral facial palsy. The cervicofacial MRI showed a lesional process centered on the parotid region , a parotid biopsy was done revealed a primary bronchial adenocarcinoma. A chest CT was performed revealing a lesional process in the dorsal segment of the right upper lobe , radiochemotherapy was recommended to the patient.

Malignant head and neck tumors are typically the source of metastases to the parotid gland.

The location of lung cancer metastases in the parotid gland is very rare; a few cases have been reported in the literature. Knowledge of the primary or secondary nature of a parotid tumor is essential for choosing treatment and estimating prognosis.

Keywords; Parotid; Metastasis; Lung; Adenocarcinoma

1. Introduction

Salivary gland tumors are rare tumors, particularly metastases [1]. Metastases localized to the parotid gland are relatively rare. In a majority of cases, the primary lesion is located in the cervico-facial region, dominated by cutaneous epitheliomas and melanomas, The parotid gland remains a rare localization for lung cancer metastasis[2]. Diagnosis relies on clinical history, physical examination, imaging, histology, and definitive confirmation via needle aspiration or biopsy [3]. We reported a case of parotid metastasis revealing pulmonary adenocarcinoma with a review of the literature.

2. Case report

Patient aged 57, chronic smoker, who presents for aparotid painful parotid swelling evolving for 8 months (figure 1) , complicated by peripheral facial paralysis. On clinical examination, we find a right parotid mass of 4*4 cm fixed at the superficial and deep plan with inflammatory signs on the side, associated with peripheral facial paralysis grade VI of House and Brackmann and a trismus, without palpable lymphadenopathy. Nasofibroscopy was without abnormality.

The cervicofacial MRI showed a lesional process centered on the parotid region, well limited with lobular contours of 4*4 cm, the solid portion of which is in T1 hyposignal, T2 hyper signal, hyperdiffusion with restriction of the ADC in places, is enhanced by heterogeneous manner after gadolinium injection (figure 2).

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A parotid biopsy was done, the histological and immunohistochemical study showed a poorly differentiated invasive TTF1+ adenocarcinoma compatible with a lung adenocarcinoma.

The evolution was marked by the appearance of respiratory symptoms consisting of dry cough with hemoptysis. A chest CT was performed revealing a lesional process in the dorsal segment of the right upper lobe measuring 15*15mm locally infiltrating (figure 4). ACT-guided biopsy was performed. Pathological examination revealed a positive thyroid transcription factor-1 (TTF-1) immunoreactive adenocarcinoma, consistent with lung adenocarcinoma (Figure 5).

A staging evaluation has detected distant bone metastases , radiochemotherapy was recommended to the patient.

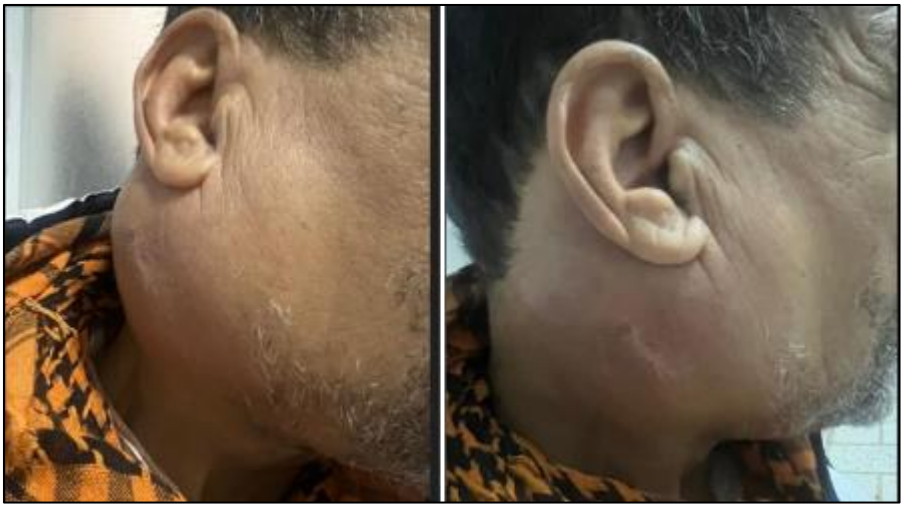
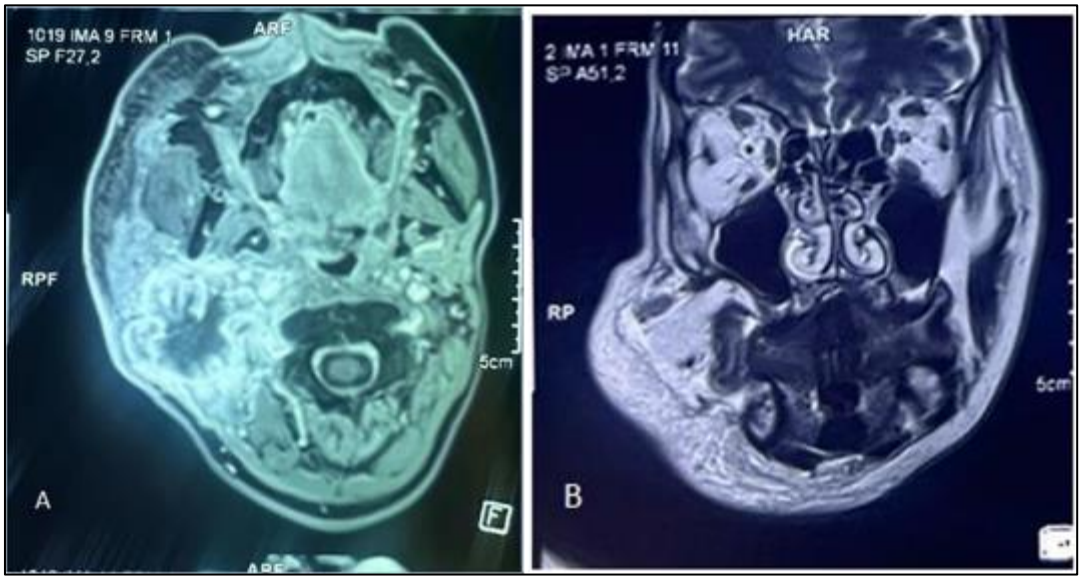


Figure 1 Image showing right parotid swelling



A: Axial section showing a right parotid process in T1 hyposignal with peripheral enhancement heterogeneous after gadolinium injection; B: Coronal section showing a right parotid process in T2 hypersignal

Figure 2 Facial cervico-MRI

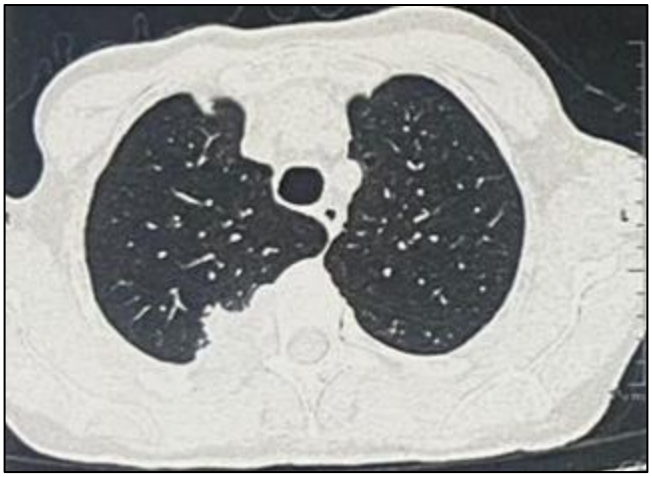
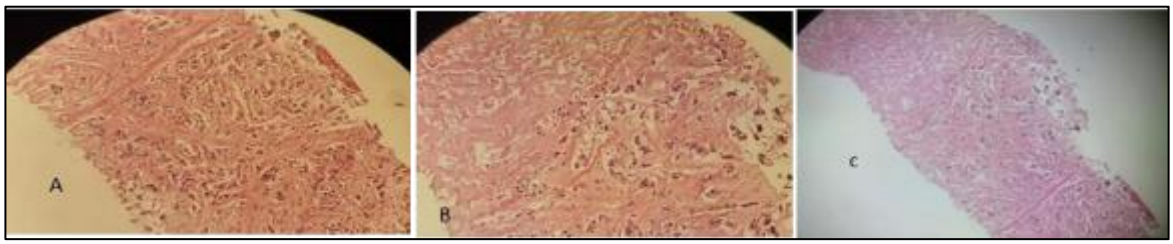


Figure 3 Parenchymal window of CT scan showing a lesional process in the dorsal segment of the right upper lobe locally infiltrative



The stroma reaction is fibro -inflammatory (B). The proliferation is largely necrotic on the last image (C).

Figure 4 Histology of the bronchial biopsy showing a microscopic appearance of a tumor proliferation arranged in tubes, cords and isolated cells (A). The tumor cells are of medium size with anisokaryotic , hyperchromic nuclei, with irregular contours and the site of some abnormal moroses. Their cytoplasm is of medium eosinophilic abundance

3. Discussion

Metastases to the salivary glands are very rare entities, which only affect, in these glands, the parotid gland and the submandibular glands. They do not exceed 10% of malignant tumors affecting the salivary glands. [1]

They represent 1 to 4% of head and neck tumors and approximately 0.4% of all tumors and 10 to 15% of these tumors are metastases. [2-3]

In the literature, we find numerous cases of metastases in the parotid gland, almost always in connection with a loco-regional primary tumor, particularly skin cancers. Malignant head and neck melanomas account for 80% of parotid metastases. [4-5-6]

10% to 20 % of cancers that are situated below the clavicle will metastasize to the parotid. [7-8]

Metastases to the parotid are rare, although we have not been able to find an exact percentage in previous studies [3-4]. Metastases to the parotid is associated with a higher mortality rate.

The prognosis becomes worse when faced with the presence of peripheral facial paralysis and a height greater than 6cm [5]. Unlike primary malignant tumors of the parotid, parotid metastases are marked by the absence of normal acini and salivary ducts [6]. Clinical history, physical examination, imaging as well as histology contribute to the diagnosis. Malignancy is strongly suspected in the presence of a hard mass, immobile in relation to the deep and superficial plane with a rapid increase in size and cutaneous infiltration next to it[10-11-12]. However, the definitive diagnosis is established by needle aspiration or biopsy [7]. A study by Zhang et al. showed that secondary parotid tumors diagnosed by needle aspiration accounted for 4% 8. [8]

Treatment usually involves resection of the parotid gland with adjuvant chemoradiotherapy. It is essential that decisions regarding further treatment for an isolated, surgically resectable parotid metastasis be made within a multi-disciplinary team. The treatment plan should be personalized for each patient, considering factors such as existing comorbidities, functional status, other metastatic sites, previous treatments, and potential perioperative risks [9-14-15].

4. Conclusion

Parotid metastases mainly come from ENT tumors. In only 10% of cases, these metastases come from other locations. Despite the rarity of secondary parotid localization of bronchial carcinoma, it must be suspected in the face of the recent appearance of a parotid mass. Additional examinations are necessary to decide on the neo- primitive. Histology and immunohistochemistry will make it possible to make the diagnosis of metastasis and to clarify the origin of the primary tumor.

Compliance with ethical standards

Disclosure of conflict of interest

The authors declare no conflict of interest.

Statement of informed consent

Informed consent was obtained from the patient prior to participation in the study. The patient was informed of the study's objectives, procedures, potential risks and benefits, and the right to withdraw at any time without consequence. All patient information was kept confidential and secure to protect their privacy.

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