

## Parotid gland metastasis of lung cancer: A case report

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### Abstract

Metastases to the parotid gland generally arise from malignant tumours of the head and neck. Lung cancers with parotid metastasis represent a relatively rare situation, the percentage of which is still unknown. We report a case of a 55-year-old chronic smoker who presented with a right parotid mass revealing a primary bronchial adenocarcinoma.

**Keywords:** Adenocarcinoma; Lung; Parotid; Metastasi

### 1. Introduction

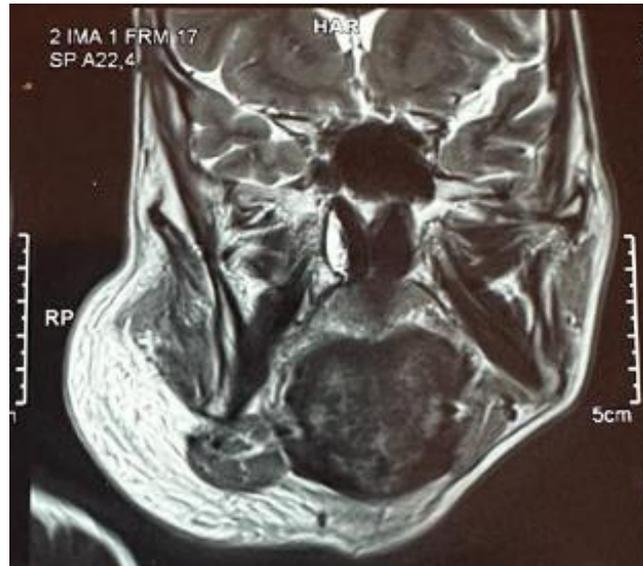
Lung cancer is the leading cause of cancer death worldwide. It has the power to metastasize to any organ, however secondary localization at the level of the parotid gland remains an unusual situation. We describe a case of pulmonary adenocarcinoma with parotid metastasis.

### 2. Case report

patient aged 55, chronic smoker 20 active PA, chronic user of Kiffe presented with painful swelling of the right parotid region evolving for 7 months before his admission to the hospital. Clinical examination revealed a mass in the right parotid region measuring approximately 4\*4 cm, firm, red, fixed in relation to the superficial and deep plane, without peripheral facial paralysis or trismus. A head and neck MRI showed a lesional process centered on the right parotid compartment measuring 41\*46\*41 mm with lobulated contours in T1 hyposignal and T2 hypersignal containing areas of necrosis with significant infiltration of peri-lesional soft tissues (figure 1). The procedure was to perform a parotid biopsy for histological signature.

The evolution was marked by the appearance of respiratory symptoms consisting of dry cough with the notion of a single episode of low-level hemoptysis. A chest x-ray was done without abnormalities. However, given the worsening of respiratory signs, a chest CT was performed revealing a lesional process in the dorsal segment of the right upper lobe measuring 15\*15mm locally infiltrating (figure 2). We suspected bronchogenic carcinoma with parotid metastasis, which is why a CT-guided biopsy was performed. Pathological examination revealed a positive thyroid transcription factor-1 (TTF-1) immunoreactive adenocarcinoma, consistent with lung adenocarcinoma (Figure 3). radiochemotherapy was recommended to the patient.

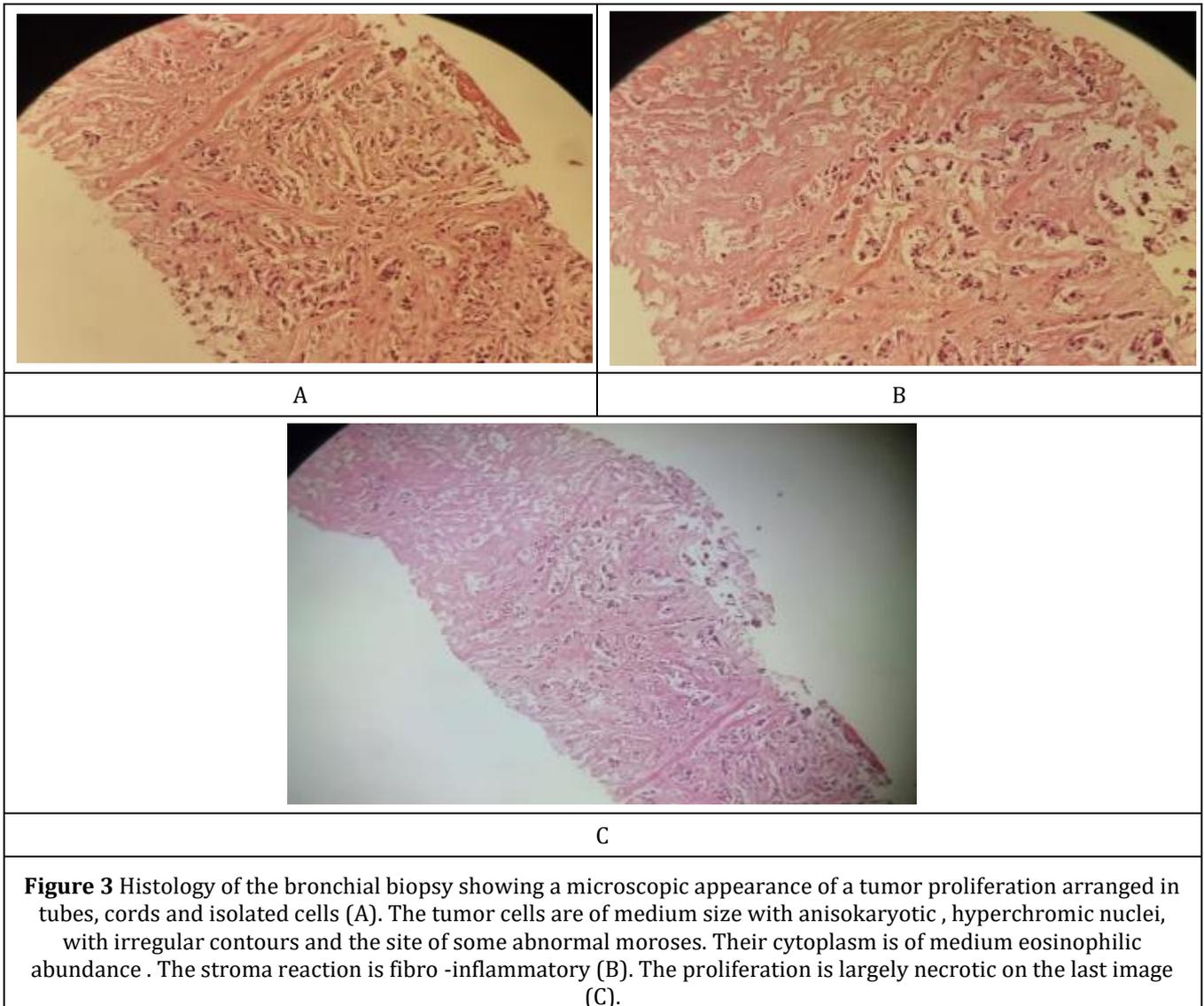
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**Figure 1** Magnetic resonance image revealing lobulated lesion process centered on the right parotid space



**Figure 2** (a) parenchymal window (b) mediastinal window Thorax computed tomography image of the patient showing a lesional process in the dorsal segment of the right upper lobe locally infiltrative associated with a discrete neighboring reticulo-micronodular infiltrate



### 3. Discussion

Tumors of the parotid gland represent the majority of salivary tumors. They affect subjects in adulthood, 20% of whom are malignant in nature 1. Parotid metastases mainly come from malignant tumors of the head and neck, particularly skin cancers. Eighty percent of parotid metastases come from malignant melanomas of the head and neck 2. Metastases to the parotid from tumors located below the clavicle is a rare event accounting for 10 to 20%. ( adk article ) . If present, a primary tumor originating from the breast, kidneys, lungs, prostate, and gastrointestinal tract should be suspected. The most common distant metastatic sites of lung malignancies are the liver, adrenal glands, brain and bone. 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. 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.

Treatment usually involves resection of the parotid gland with adjuvant radiotherapy 9.

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#### 4. Conclusion

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.

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#### Compliance with ethical standards

##### *Disclosure of conflict of interest*

No conflict of interest to be disclosed.

##### *Statement of informed consent*

Informed consent was obtained from all individual participants included in the study.

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