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Parotid ductal carcinoma: About a case

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Abstract
Canal carcinoma of the salivary glands is a very rare tumor. It sits preferentially in the parotid gland, in the maxillary gland and exceptionally in the accessory salivary glands. We report the case of a 57 year old patient, with no specific medical history. She presented for a left parotid swelling evolving for 2 months, without other signs associated with the origin of the discovery of a rare entity of carcinomas parotidiens, characterized histologically by its great resemblance to the non-specific carcinoma of the breast formerly called ductal carcinoma of the breast. The diagnosis is based on a good anatomo-clinical and immunohistochemical correlation.

Keywords: Canal carcinoma, parotid, pathological anatomy

1. Introduction
Canal carcinoma of the salivary glands is a very rare tumor. It sits preferentially in the parotid gland, in the maxillary gland and exceptionally in the accessory salivary glands [1, 2, 3]. It is distinguished from other carcinomas of the salivary glands by its locoregional aggressiveness, the frequency of its metastatic course and its unfavorable prognosis [2, 4].

Medical observation
We report the case of a 57-year-old female patient with no specific medical history who presented with a left parotid swelling progressing 2 months ago with no other associated signs. The patient underwent surgical resection of the tumor. On macroscopic examination, it was a fragmented material weighing 6 grams and measuring between 0.4 and 4 cm, brownish in color and firm consistency, site of changes hemorrhagic. Histological examination showed a serous salivary parenchyma, largely dissociated by an invasive carcinomatous proliferation, organized in canals, clusters and spans. The cells are of medium size. The nuclei are hyper chromatic, nucleolated in places and seat of mitoses. The mitotic index is estimated at 4 mitoses, sometimes abnormal by 10 fields at high magnification. The cytoplasm is pale eosinophilic. The stroma reaction is fibro-inflammatory (figures 1, 2). Presence of perinervous sheaths.

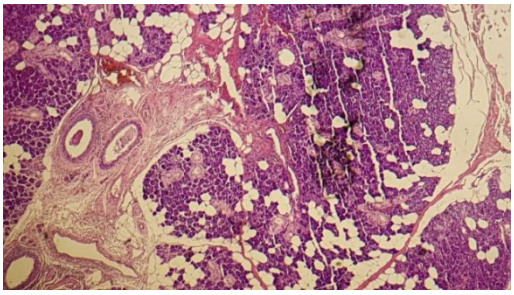

Fig 1: Serous salivary parenchyma, largely dissociated by an invasive carcinomatous proliferation (HEX10)

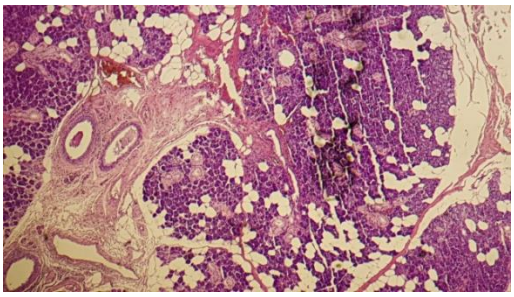

Fig 2: Serous salivary parenchyma, largely dissociated by an invasive carcinomatous proliferation (HEX20)

The immunohistochemical study showed a diffuse cytoplasmic expression of the anti CK7 antibody (figure 3).

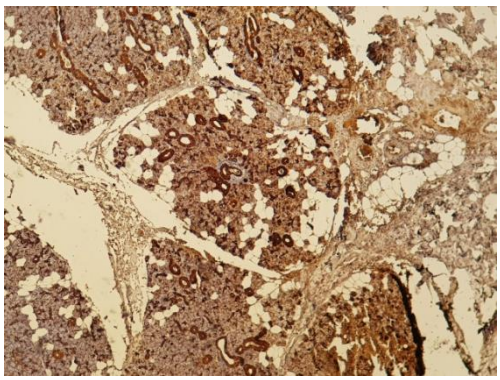

Fig 3: Diffuse cytoplasmic expression of the anti CK7 antibody (HEX20)

An absence of expression of the tumor cells of the anti CK20 (figure 4) and GATA3 antibodies (figure 5), mammary hormone receptors and HER2, eliminating the mammary origin which presents the first differential diagnosis. The therapeutic approach was to complete the surgical gesture with a total parotidectomy with homolateral lymph node dissection bringing back 7 non-metastatic nodes with external radiotherapy and monitoring.

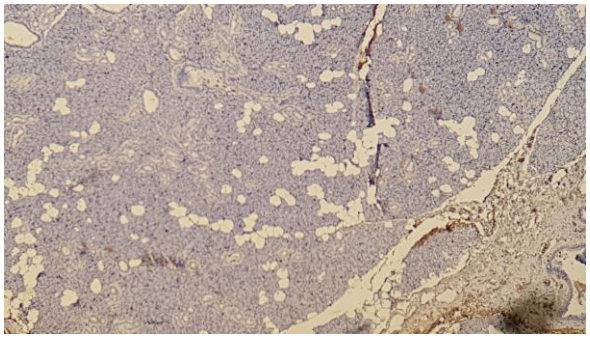

Fig 4: Absence of expression of the tumor cells of the anti CK20 (HEX10)

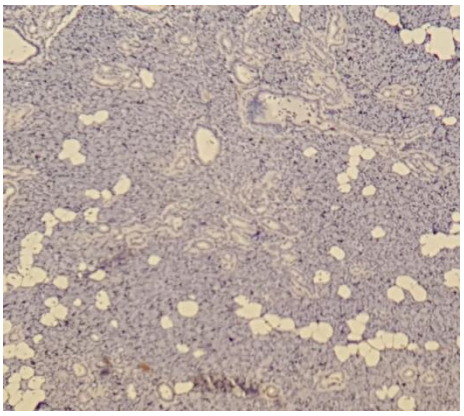

Fig 5: Absence of expression of the tumor cells of the anti GATA3 (HEX10)

Discussion

Ductal carcinoma exists in two clinicopathological forms, either as a component of a pleomorphic adenoma-type carcinoma, or as a whole entity [5]. It is a high grade malignancy which was officially recognized by the WHO in 1991 as a tumor of the salivary glands [14]. It has also been described as cribriform salivary carcinoma of the excretory ducts [2] and infiltrative salivary carcinoma [3]. The largest published series reported included 15 to 26 cases [5, 9, 13]. Kane et al. [10], in a series of 194 parotid cancers diagnosed over a 17-year period, reported an incidence of ductal carcinomas of 6%. Although we are reporting a case involving a woman, this tumor mainly affects men with a sex ratio ranging from 4 to 8 [1, 5, 7, 8, 13]. The average age at diagnosis is between 55 and 65 years old [1, 5, 6, 7, 8, 13, 14]. The evolution of clinical symptoms seems rapid, dominated by swelling, most often painful. The largest diameter of the tumor can reach 9 to 10 cm. Extraparotid extension is frequent, 69 to 78% of cases [4, 13]. Associated facial paralysis is reported in 40 to 60% of cases [4, 5, 11, 13], testifying to tumor aggressiveness. This clinical facial paralysis is related to the degree of nervous invasion found during the histological study. Lymph node involvement is also observed in 40 to 80% of cases [4, 5, 10, 13]. Histologically, when cut, it is a yellowish or greyish white tumor, which can be nodular, multinodular, cystic or infiltrative [15]. The ductal carcinoma of the salivary glands is identical to its breast carcinoma counterpart. It can also exist in its intracanal or invasive form. Histological, comedonic, papillary and cribrifoma forms are most often encountered [2, 9]. The differential diagnosis should be made mainly between mucoepidermoid carcinomas and metastases of breast adenocarcinomas [2]. Hui et al. [9] proposed replacing the terms carcinoma of the terminal and salivary ducts with those of low and high grades of malignancy, since these are those which are most often reported in the series and that Delgado et al. described low grade as a favorable prognostic factor [6]. Similar to non-specific invasive breast carcinoma, formerly known as breast ductal carcinoma, some authors have recommended the study of estrogen and progesterone receptors [1]. Given the aggressive nature of the tumor, the treatment must be radical. It is based on a total parotidectomy with sacrifice of the facial nerve due to the frequency of its invasion, with a homolateral lymph node dissection and postoperative radiotherapy. Certain anatomical and clinical parameters have been reported as unfavorable prognostic factors. According to Hui et al, the quality of surgical excision, the existence of lymphatic emboli, extraparotid or lymph node invasion, local or metastatic relapse have an unfavorable prognosis [9]. A size of more than 2 cm would have an unfavorable prognosis [4, 5, 12, 13].

Conclusion

Carcinoma of the salivary ducts is a very rare tumor, observed mainly in the parotid gland. It is characterized histologically by its great resemblance to the non-specific carcinoma of the breast formerly called ductal carcinoma of the breast. The diagnosis is based on a good anatomo-clinical and immunohistochemical correlation. The treatment is mainly based on radical surgery.

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