



CASUISTIC PAPER

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Hyalinising clear cell carcinoma of salivary gland: a case report

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ABSTRACT

Introduction. Clear cell carcinoma, not otherwise specified/hyalinising clear cell carcinoma of the salivary gland (HCCC) is a malignancy that arises in minor salivary glands. It rarely leads to distant metastases or cancer-related death but has the potential for recurrence and focal metastases.

Aim. A case is reported.

Description of the case. A 72 years old female patient has reported to the Clinic of Otolaryngology with a tongue lesion. The patient had no history of malignancy. The lymph node has been surgically removed for further examination. Cords and nests of clear cells and cells with eosinophilic cytoplasm in a hyalinized stroma were identified within the lymph node. After the diagnosis the patient has been transferred to another Oncology Hospital for further treatment.

Conclusion. The diagnosis of clear cell carcinoma may be challenging because many of its features frequently overlap with other salivary gland lesions.

Keywords. cancer, hyalinising clear cell carcinoma, salivary gland

Introduction

The original description of hyalinizing clear cell carcinoma (HCCC) was published by Milchgrub et al. in 1994.¹⁻³ HCCC shows a female predominance.⁴ The majority of cases occur in the oral cavity, most commonly the tongue and hard palate. Less common locations include the parotid gland, lacrimal gland, nasopharynx and hypopharynx.⁵

Aim

A case of hyalinizing clear cell carcinoma is reported.

Description of the case

A 72 years old female patient has reported to the Clinic of Otolaryngology with a tongue lesion. Upon examination by the admitting doctor a tumor of the base of the tongue has been identified and a surgical biopsy has

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been performed. The examination also revealed an enlarged lymph node in the submandibular region, posterior to the submandibular gland.

Our Department of Pathology received two 5 mm fragments of the tongue tumor. When examined under the microscope tissue sample consisted of nests of cells with little nuclear atypia and clear cytoplasm alongside abundant chronic inflammation (Figure 1). Immunohistochemical stains revealed these tumor cells to be positive for CK 5/6, CK7 (Figure 2), CK19, and focally positive for RCC marker. Stains for CK20 and S-100 Protein were negative. Even though network of small, thin walled, „chicken wire“ vasculature has not been identified a Renal Cell Carcinoma metastases were taken under consideration.

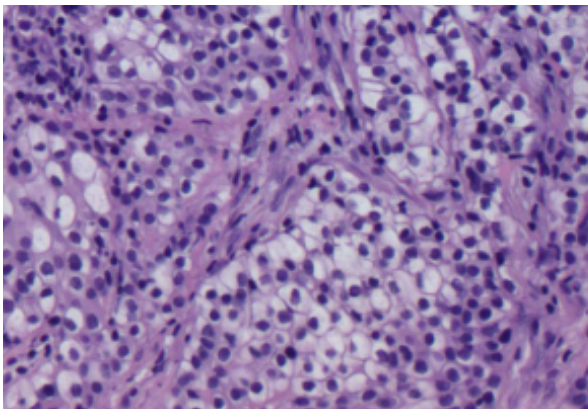


Fig. 1. Nest of neoplastic cells with little nuclear atypia and clear cytoplasm (200x, H&E stain)

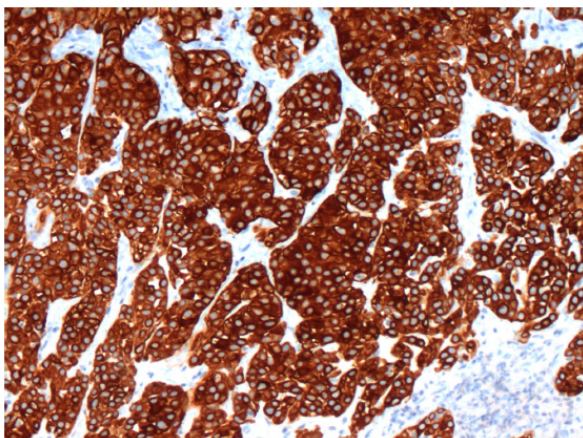


Fig. 2. Positive stain for CK7 (200x)

Renal cell carcinoma (RCC) is a kidney cancer that originates from the cells that line the proximal convoluted tubule.⁶⁻²⁸ It accounts for about 2–3% of all malignant tumors.⁷⁻¹⁰ Most cases are diagnosed in the 7th decade of life.⁸ Metastases to the head and neck region account for 3.3% of cases.⁹⁻²² They may occur many years after surgical treatment of the primary tumor.¹⁰⁻³⁴

The patient had no history of malignancy. She underwent an abdominal CT scan which excluded kidney

tumors. At the same time a fine needle aspiration (FNA) has been performed on the enlarged lymph node but the cytological examination was nondiagnostic.^{35,36}

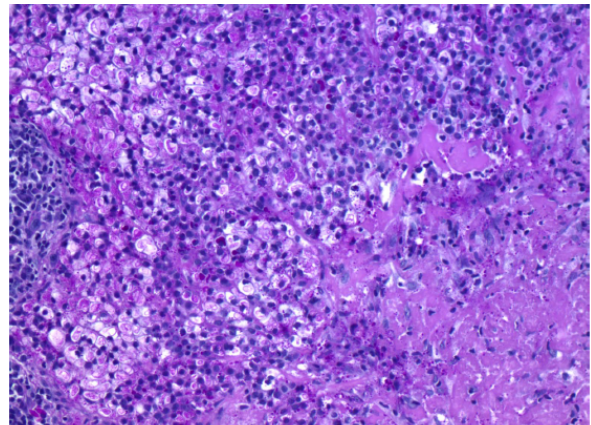


Fig. 3. Nests of clear cells and cells with eosinophilic cytoplasm in a hyalinized stroma (200x, H&E stain)

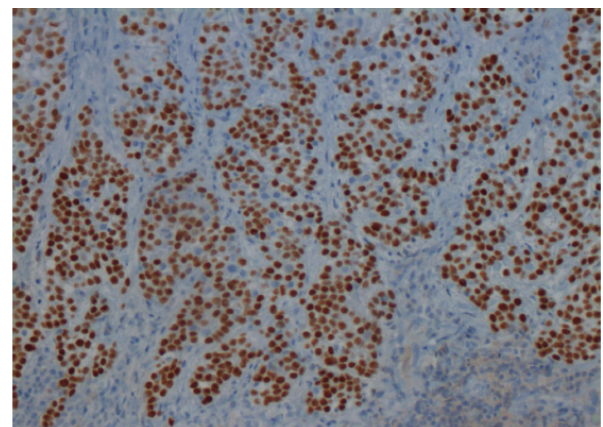


Fig. 4. Positive stain for p63 (200x)

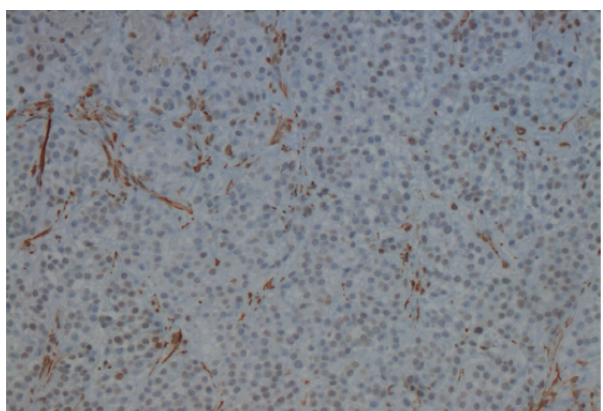


Fig. 5. Negative stain for SMA (200x)

The lymph node has been surgically removed for further examination. Cords and nests of clear cells and cells with eosinophilic cytoplasm in a hyalinized stroma were identified within the lymph node (Figure 3). Immunohistochemical stains were positive for p63 (Figure 4), Epithelial Membrane Antigen (EMA) and negative for Smooth Muscle Actin (SMA) (Figure 5), Melan A, HMB45, De-

smin, PAX8, CD30, Uroplakin, Estrogen Receptor (ER), GCDFP-15, Inhibin, WT1 and Vimentin. Tumor cells were also PAS positive and Mucin negative.

Discussion

When diagnosing HCCC, one must exclude other, more frequent lesions of the oral cavity. Metastatic Clear Cell Renal Cell Carcinoma was taken under consideration at the beginning of the differential diagnosis. The sample that was first examined was small and lacked hyalinising stroma. However, metastatic tumor cells from the lymph node were positive for p63 and negative for CD10 and therefore CCRCC was excluded.¹¹

Primary oral cavity lesions that present squamous differentiation are squamous cell carcinoma (SCC) with clear cell differentiation and mucoepidermoid carcinoma. SCC presents greater nuclear atypia than HCCC and has a high mitotic activity.¹² Mucoepidermoid carcinoma has a high tendency for cyst formation lined by goblet type mucinous cells and generally lacks sclerosis/hyalinization and small nests or thin cords of tumor.¹³ Tumor mimics with myoepithelial differentiation, in particular epithelial-myoepithelial carcinoma usually show expression of markers such as SMA or S-100 Protein which were negative in presented case.¹⁴ Finally, clear cell odontogenic carcinoma was considered a less likely diagnosis due to localization of the tumor.¹⁵ After the diagnosis the patient has been transferred to another Oncology Hospital for further treatment.

Conclusion

The diagnosis of Hyalinizing clear cell carcinoma of the salivary gland may be difficult, especially when the examined tissue sample is small and doesn't include all of the components of the tumor. Immunohistochemical stains may be very helpful in such difficult cases. In addition a EWSR1-ATF1 gene fusion seen in fluorescence in situ hybridization (FISH) confirm the diagnosis.

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