

## Case Report

# A rare case report of acinic cell carcinoma in 22 years old female patient

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## Abstract

Acinic cell carcinoma (ACC) is a low-grade malignant salivary neoplasm. In the head and neck region, the parotid gland is the predominant site of origin and women are usually more frequently diagnosed than men. ACCs constitute approximately 6% to 8% of all salivary gland neoplasms, and 17% of primary salivary gland malignancies. ACC has a significant tendency to recur, to produce metastases (cervical lymph nodes and lungs), and may have an aggressive evolution. ACC can be misinterpreted because of its low grade histology, due to its benign appearance, encapsulated tumor, absence of necrosis and histologically similar to the normal parotid gland. Histopathologist should be aware and very vigilant while reporting this entity.

## Key words

Acinic cell carcinoma, Salivary gland malignancies, Women, Histology.

## Introduction

Acinic cell carcinoma (ACC) is a low-grade malignant salivary neoplasm. In the head and neck region, the parotid gland is the predominant site of origin and women are usually more frequently diagnosed than men. It is formed by acinic cells describing a pattern with little stroma visible. In well differentiated tumors, the neoplasia is similar to the normal parotid [1], in both morphological and biochemical aspects.

That can make it more difficult to diagnose. It usually presents as a well-defined solitary nodule [2-4]. Many histological patterns are identified like acinarlobular, microcystic, follicular, papillary-cystic, medullary, ducto-glandular and primitive tubular [5]. The most common patterns of growth, in decreasing order, are solid feature, microcystic, papillary-cystic and follicular [4]. Mostly, there is only one pattern seen in a single lesion. The main aim of presenting this case report is that one can become well informed

about the features of this rare tumor and recognize easily the accurate diagnosis.

### **Case report**

A 22 years old female patient came to the Outdoor patient Department of ENT of Dhiraj General Hospital and SBKS MI & RC due to complaint of the left sided parotid swelling since 6 years. On examination, there was presence of left sided parotid swelling measuring 6× 5 cm in size which was soft to firm in consistency. Patient's all the hematological, biochemical and serological examinations were normal. The patient was operated for this swelling and the specimen was sent to the histopathology department. Received specimen was measured 4×3.5×1.5 cm with presence of brownish well circumscribed tumor mass measured 1×0.8 cm (**Photograph - 1**). On microscopic examination of the left parotid mass, hematoxylin and eosin stained sections demonstrated lobules of anaplastic glandular tissue arranged in sheets with microacinar pattern. The acinic cells are glandular with basophilic cytoplasm. Few lymphoid follicles were also present. From overall histological findings the diagnosis of Acinic cell carcinoma of left parotid gland was given (**Photograph - 2, 3, 4**).

**Photograph – 1:** Small brown round tumor mass.

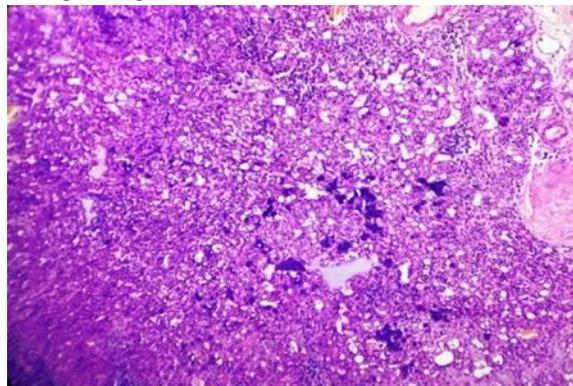


### **Discussion**

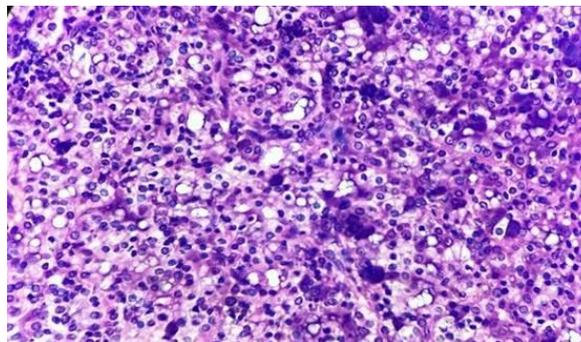
According to The World Health Organization, acinic cell carcinoma (ACC) is a malignant

epithelial neoplasm of the salivary glands in which at least some of the neoplastic cells demonstrate serous acinar cell differentiation characterized by cytoplasmic zymogen secretory granules. Salivary ductal cells can also be a component of this low-grade neoplasm that most often occurs in the parotid gland and presents at a relatively younger age than other salivary gland tumors. This malignant disease shows a female predilection [1].

**Photograph – 2:** Microacinar pattern of malignant glandular cells (H&E stain, 4X).



**Photograph – 3:** Solid pattern of tumor cells with fine, serous cytoplasmic granules (H&E stain, 40X).

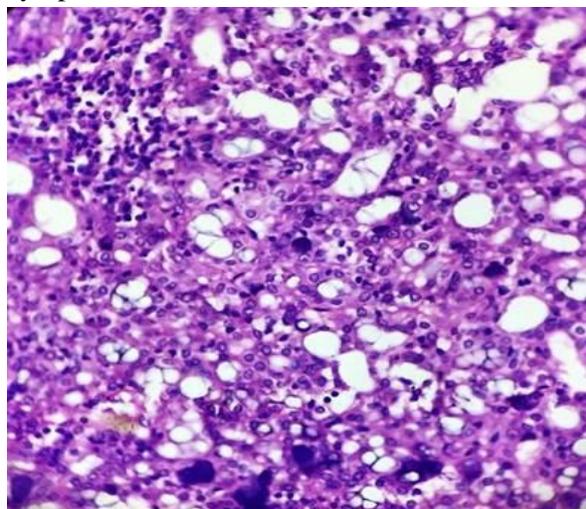


ACCs constitute approximately 6% to 8% of all salivary gland neoplasms, and 17% of primary salivary gland malignancies, representing the third most common epithelial malignancy of the salivary glands in adults, following mucoepidermoid carcinoma and adenoid cystic carcinoma.

Possible causes of ACC include previous radiation exposure [6] and familial predisposition [7, 8]. Women are more prone to get this

malignant neoplasm [9, 10]. In our case also the patient was 22 years old female.

**Photograph – 4:** The acinic cells with basophilic cytoplasm (H&E stain, 40X).



Parotid ACC typically presents with a slowly growing mass in the parotid region. Our patient also had history of gradually enlarging swelling since 6 years. Pain and facial nerve palsy were seldom reported. Ultrasonography (USG) can be helpful for studying tumours topography and dimension. Computed tomography (CT) and magnetic resonance imaging (MRI) are also useful providing additional information regarding the local extension [11, 12]. Fine-needle aspiration cytology (FNAC) can be considered a safe, rapid and helpful diagnostic test in determining the nature of a parotid mass [13-26] as it has been reported to have a specificity of 91% and a sensitivity of 96% when sufficient cells are present [27, 28].

ACC is histologically defined by serous acinar cell differentiation. However, several cell types and histomorphologic growth patterns are recognized. These include acinar, intercalated ductal, vacuolated, clear, and non-specific glandular and solid-lobular, microcystic, papillary-cystic, and follicular growth patterns [29].

The majority of tumor cells in ACC were described as having many ultrastructural features

similar to those found in the normal serous acinar cells. These cells were round or polygonal with eccentrically placed nuclei and inconspicuous nucleoli. The lightly basophilic cytoplasm was usually finely or coarsely granular, but was clear focally in some cases. Occasionally, this clear, vacuolated cytoplasmic pattern was evident throughout the entire tumor. Numerous intercellular microcysts, cysts, crude acini, gland-like areas and large papillary cystic spaces have been described in some cases, and well developed glandular configurations occur rarely.

The differential diagnosis of the tumor in biopsy includes also adenocarcinoma, mucoepidermoid carcinoma, pleomorphic adenoma, Warthin tumor, adenoid cystic carcinoma, sebaceous lymphadenoma, benign lymphoepithelial lesion, sialadenosis and radiation-induced sialadenitis. The new diagnostic entity, mammary analogue secretory carcinoma [30], should be also in the differential diagnosis of salivary gland tumors.

ACC has a significant tendency to recur, to produce metastases (cervical lymph nodes and lungs), and may have an aggressive evolution [31]. In our case the patient had this tumor but not showing any features of metastasis.

## Conclusion

ACC can be misinterpreted because of its low grade histology, due to its benign appearance, encapsulated tumor, absence of necrosis and histologically similar to the normal parotid gland. Histopathologist should be aware and very vigilant while reporting this entity.

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