Cytologic diagnosis of acinic cell carcinoma of minor salivary gland: a distinct rarely described entity

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Abstract

A rare case of acinic cell carcinoma of minor salivary gland with cervical lymph node metastasis in a 50-year-old man is reported and the literature regarding this type of tumor is reviewed. These tumors arise from either an intercalated duct stem cell or the reserve cell of the salivary gland terminal tubule but not from both simultaneously. Rarely these neoplasms arise from more mature acinar cells. It is clear that these tumors behave ominously. The 25 year determinate survival rate is 50%, with a 20% incidence of metastasis. Surgical excision is the treatment of choice. Radiotherapy, especially neutron therapy, has a place in the treatment of this tumor but the role of chemotherapy is not exactly known at this time.

Introduction

Acinic cell carcinoma is a relatively uncommon malignancy, accounting for 1-6% of all salivary gland tumors and 15% of all malignant tumors of the parotid gland.[1] Acinic cell carcinoma (ACC) is a rare, slow growing, low grade neoplasm of salivary glands and some extra salivary sites. Most cases occur in the major salivary gland, but a few cases affecting the minor salivary gland have also been described. Most acinic cell carcinomas occur between the ages of 40 and 49 years.1 Guimaraes[2] reported that the tumor is most common among whites (90% of cases); blacks account for 8% of cases and it affects twice as many females as males. Acinic cell carcinomas of the parotid gland occur bilaterally in 3% of cases, a rate of bilaterality that is second only to that of Warthin's tumor.[2,3]

Case Report

A 50-year-old male presented in the Ear Nose & Throat (ENT) outpatients department with a painless, firm, reddish swelling in the soft palate, of size 3×2 cm (Figure 1). He also had enlarged, firm, single ipsilateral right cervical lymph node of similar size (Figure 2). Preoperative evaluations included computed tomography (CT) with contrast and fine-needle aspiration biopsy of both the lesions. Cytomorphologically, the smear from the intra-oral mass revealed monomorphous population of loose and cohesive round to oval cells with granular cytoplasm, suggestive of an acinic cell carcinoma (Figure 3). The lymph node aspirate depicted a similar cytological morphology. Laryngoscopy and laser excision of the intra-oral mass was done, which grossly revealed a single, ill-defined, tan colored, firm to cystic mass of size 3×2 cm. Microscopically, the tumor was composed of a usual low-grade acinic cell carcinoma with microcystic cribriform pattern. The surgical margin was positive but no soft tissue or perineural invasion was noted and the tumor was staged as T2NIM0. After complete excision, best feasible mode of postoperative therapy at our centre, in the form of 3000 cGy of Co-60 radiation therapy and 3 courses of chemotherapy with 5-fluorouracil and cisplatinum was given to reduce local recurrence. Our patient is doing well after 1 year of follow-up period.

Discussion

Our findings support the view that acinic cell carcinoma are more common among patients in midlife.[1] As reported by others,[3,4] we found that the tumor usually appeared as a painless mass. As was the case in our study, patients do not usually present with facial weakness.[3,4] One of the controversies surrounding acinic cell carcinoma is its malignant potential. Prognostic variables include traditional considerations such as tumor site, size, and histologic growth pattern, as well as the presence or absence of metastasis. In our case, tumor size was 3×2 cm. According to Timon *et al*.,[5] large tumors (e.g., 2.92 cm) carry a worse prognosis than do small tumors (e.g., 1.93 cm). According to Batsakis *et al*.,[6] acinic cell carcinomas are derived from the intercalated ducts of the salivary duct and tubular system.

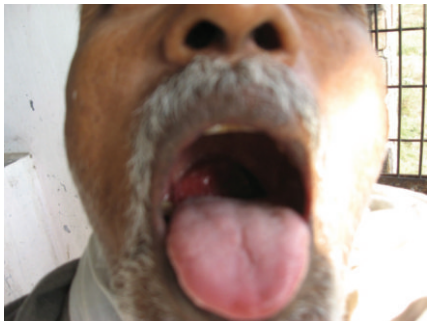


Figure 1. Gross photograph: A painless, firm, reddish swelling in the soft palate, of size 3×2 cm.



Figure 2. Gross photograph: Enlarged, single, firm right cervical lymph node of size 3×2 cm.

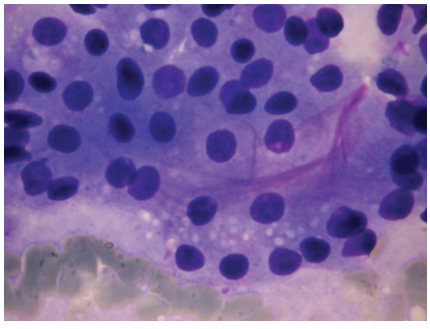


Figure 3. Acinic Cell Carcinoma: Smear from the intra-oral mass revealed monomorphous population of loose and cohesive round to oval cells with granular cytoplasm. May Grunwald Giemsa (MGG x 40 X).

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Holgar *et al.*,[7] state that a pronounced lymphocytic reaction is a hallmark in 10% of ACC aspirates and both the variety of tumor cell differentiation and the pronounced lymphocytic reaction observed in ACC aspirates may result in confusion with other salivary gland lesions. Primary ACCs were correctly diagnosed in 68%; additionally, ACC was suspected or included in the differential diagnosis in 15%.[7]

The role of radiation therapy has not been fully evaluated. Batsakis and others,[6,8] have suggested that acinic cell carcinoma is relatively radiosensitive and that external radiation therapy should be considered for locally advanced tumors, late-stage disease, and residual lesions.

The course of acinic cell carcinoma of the parotid gland following surgical and nonsurgical interventions is variable.[8,9] Follow-up ranged from 1 year and 3 months to 10 years and 9 months (mean: 4 year and 11 too). The results of treating acinic cell carcinoma are quite variable. Local recurrences have been reported in 8-56% of patients, but the recurrence rate rarely exceeds 20%.[10] Reported rates of lymph node and distant metastases range from 0-16%, but most are less than 10%.5,10 No recurrence was evident at 1 year follow up in our case. Therefore, we can conclude that acinic cell carcinoma can be successfully treated with a superficial or total parotidectomy with sparing of the facial nerve.

Our follow-up period was relatively short, i.e., 1 year. Other authors[2,11] have maintained that a follow-up of at least 10 years is necessary to adequately determine final treatment outcomes. We conclude that increased familiarity with the spectrum of cytomorphologic findings and the potential diagnostic pitfalls in acinic cell carcinoma will improve the cytodiagnosis of this neoplasm.

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