IMPACT: International Journal of Research in Applied, Natural and Social Sciences (IMPACT: IJRANSS)
ISSN (P): 2347-4580; ISSN (E): 2321-8851
Vol. 7, Issue 2, Feb 2019, 41-46

INTRAOSSEOUS MUCOEPIDERMOID CARCINOMA OF MANDIBLE WITH CBCT FINDINGS: A CASE REPORT

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Received: 04 Feb 2019 **Accepted:** 11 Feb 2019 **Published:** 19 Feb 2019

ABSTRACT

Intraosseous mucoepidermoid carcinomas are rare salivary gland neoplasms which are often provisionally diagnosed as odontogenic lesions. The pathogenesis of this rare variant remains ill-defined. It occurs in 4th to 6th decades of life predominantly. We present a case report of intraosseous mucoepidermoid carcinoma in a 40-year-old female patient who was provisionally diagnosed as an odontogenic lesion. A final diagnosis was made by histological examination. This variant of mucoepidermoid carcinoma is usually found to be low-grade histological type.

KEYWORDS: *Central Mucoepidermoid Carcinoma, Intraosseous Mucoepidermoid Carcinoma, Variant of Mucoepidermoid Carcinoma*

INTRODUCTION

Mucoepidermoid carcinoma (MEC) is the third most common salivary gland neoplasm[1]. It is the common primary salivary gland malignancy encountered in both adults and children [2]. Central mucoepidermoid carcinoma (CMC) an intraosseous variant of MEC comprises about 2-4% of all the MEC's [3]. The age of incidence of CMC is 4th to 6th decades predominantly. The tumor appears to affect mandible more frequently, with a female predilection [1]. CMC's establish themselves as the unknown etiological entity. CMC's often mimic odontogenic cysts and tumors like ameloblastoma, radiographically.

CASE REPORT

A 40 -year -old female patient presented with chief complaint of swelling in the right mandibular posterior region for 3 months, associated with mild pain. Extraorally mild diffuse swelling measuring 1 X 1 cm was noticed in relation to the angle of the mandible (Figure 1). On inspection, the swelling extended from 47 and 48 along buccal mucosa to the

retromolar region (Figure 2). On palpation, buccal cortical plate expansion was noticed. Paresthesia of lip was also present. Submandibular lymph nodes on the involved side were palpable which were solitary, fixed and tender.

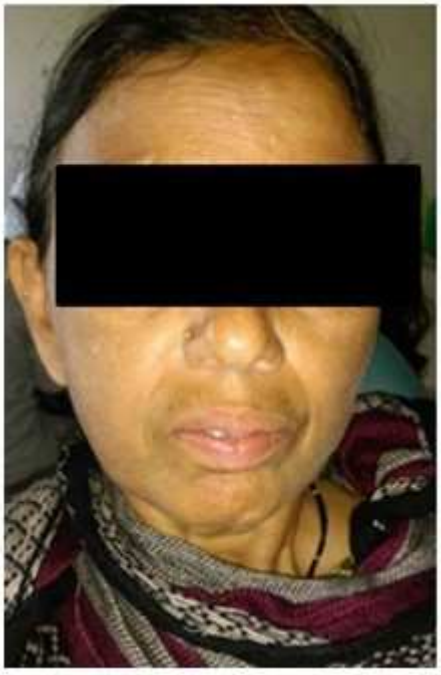

Figure 1: Extraoral Photograph

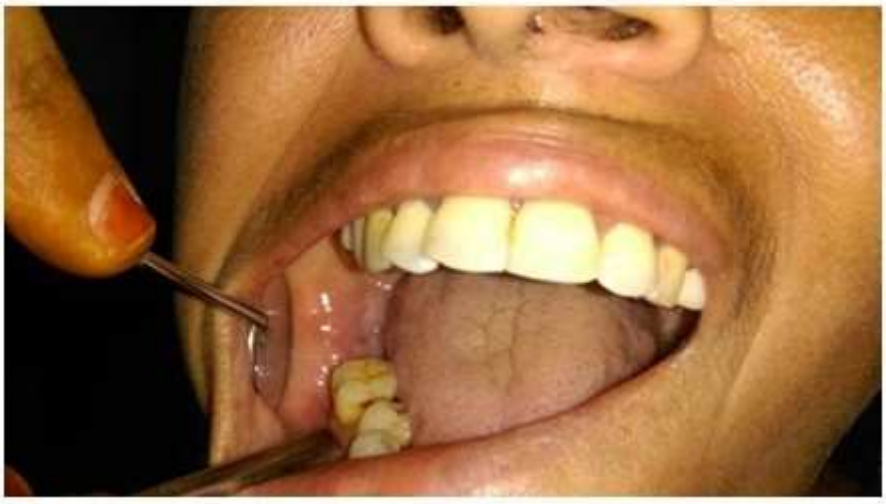

Figure 2: Intraoral photograph

Intra -oral periapical radiograph revealed a solitary well-defined radiolucency of size 2 X 2 cm in relation to 47 and 48 involving mandibular ramus. The borders of the lesion were sclerotic. Orthopantomogram (OPG) findings revealed an oval shaped radiolucency surrounded by a sclerotic border, present 1cm away from the distal root of 46. The borders involved were - Posteriorly the mandibular ramus, a superiorly alveolar crest of 47 and 48 and inferiorly 1cm above the inferior border of the mandible with the involvement of inferior alveolar canal (Figure 3).

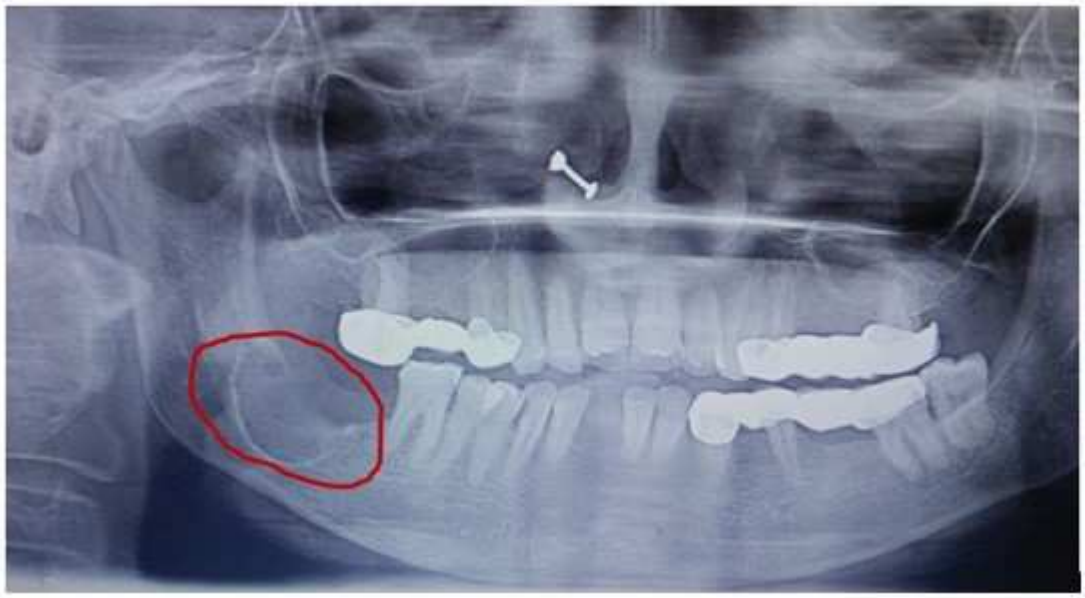

Figure 3: OPG Revealing Cupping of the Right Side of the Mandible

Cone beam computerized tomography (CBCT) was also performed in the present case. In Coronal CBCT view, an expansile lesion with an erosion of lingual cortical plate was observed (Figure 4). Axial CBCT view showed an ill-defined soft tissue mass (Figure 5).

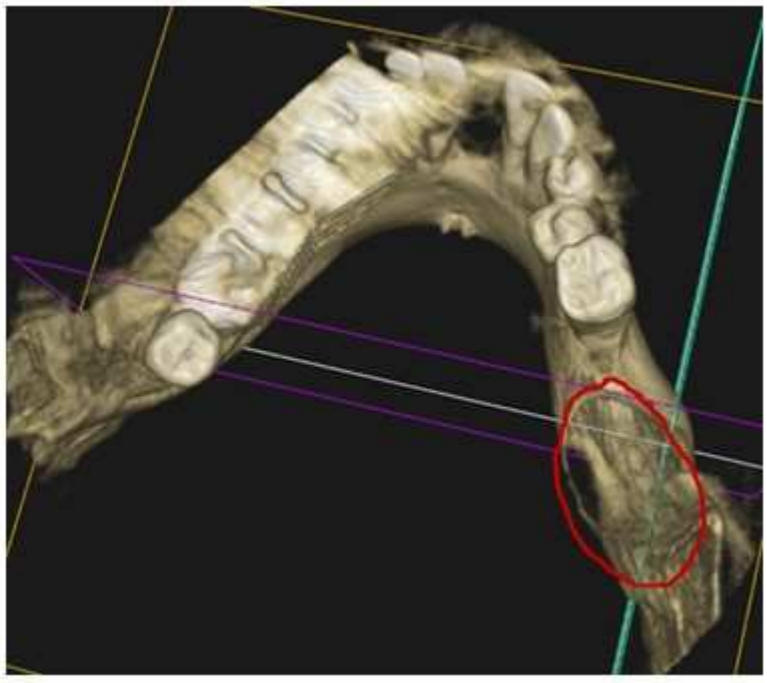

Figure 4: Coronal View of CBCT

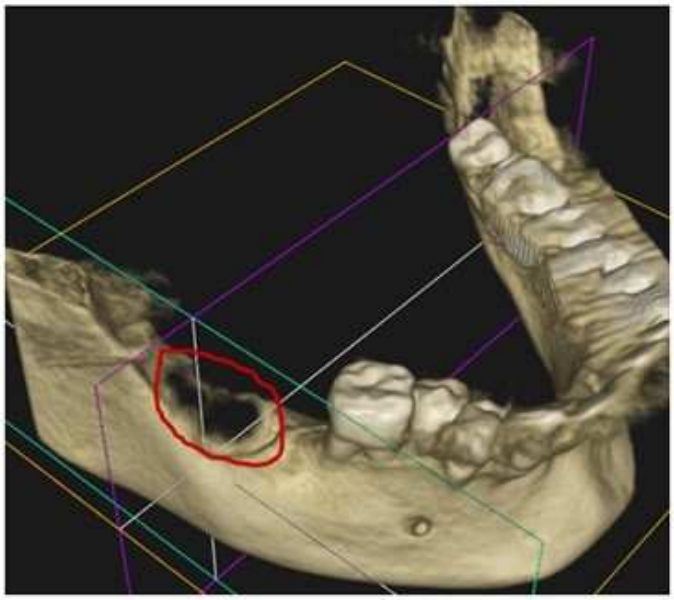

Figure 5: Axial View of CBCT

Provisionally a diagnosis of odontogenic keratocyst was considered. Incisional biopsy was performed and histopathological features revealed invasive tumor arranged in a glandular pattern, lined by intermediate type, squamoid cells, mucous cells and columnar cells with intracytoplasmic mucin in a fibrous background (Figure 6). The stroma showed scattered chronic inflammatory cells. Under higher magnification, few microcysts and glands showed luminal mucin (Figure 7). No evidence of perineural invasion or necrosis was observed. Based on microscopic findings, a diagnosis of low-grade mucoepidermoid carcinoma was given.

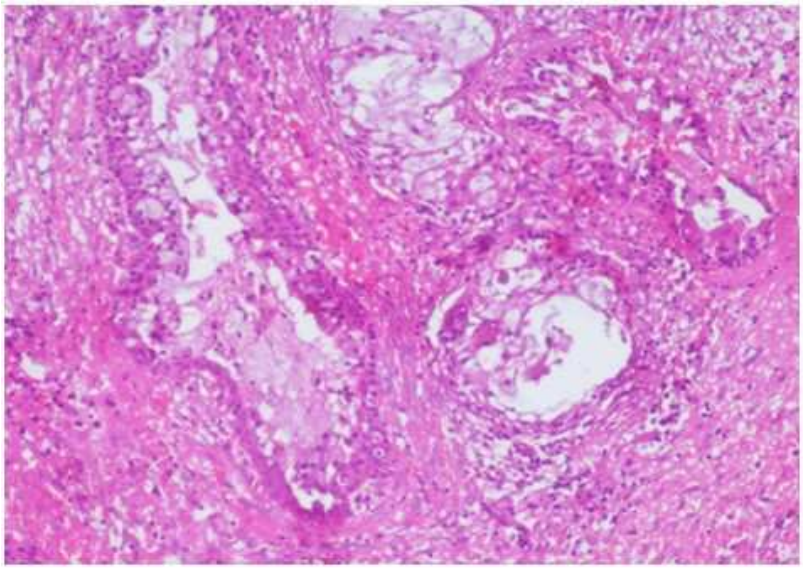

Figure 6: H&E Picture under 10x

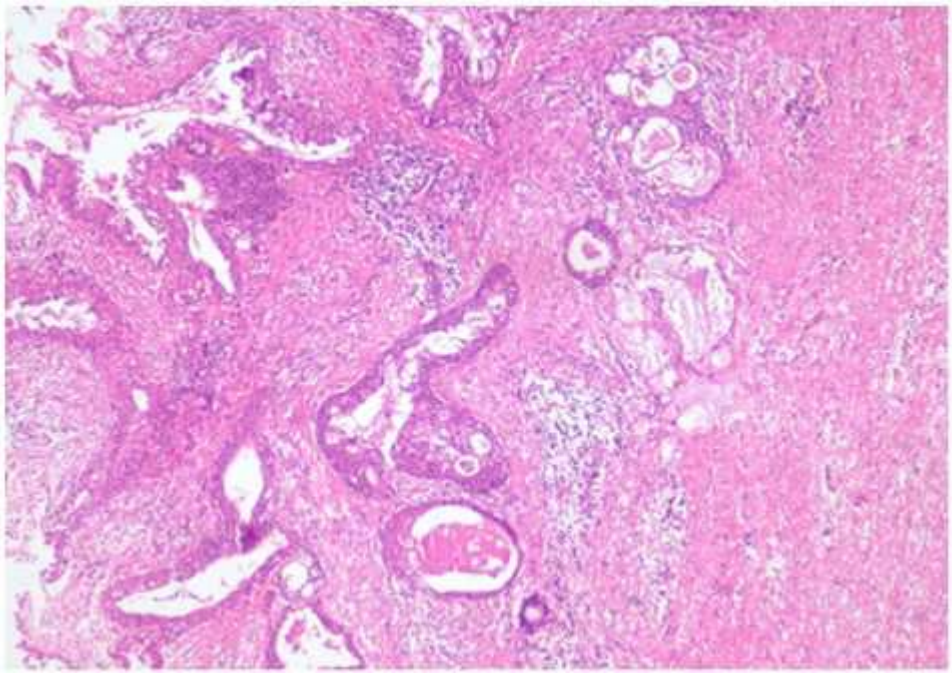

Figure 7: H&E Picture under 4X

DISCUSSIONS

Certain salivary gland lesions rarely occur in jaws and they exhibit distinct clinical features [3]. Pathogenesis of central salivary gland lesions may be attributed to the entrapment of salivary gland tissue, (submandibular, sublingual or minor salivary glands) in the jaws during the process of embryogenesis. The retromolar mucous glands are salivary glands with independent excretory duct and their glandular inclusions may be present above the inferior alveolar canal. The oral epithelium at future retromolar fossa develops both third molars and retromolar mucous glands [4]. These glandular inclusions are considered in the pathogenesis of central salivary gland tumors. Remnants of dental lamina, metaplasia of odontogenic cyst lining and transformation from maxillary sinus epithelium are also considered in the pathogenesis of central salivary gland lesions. However the possibility of development of CMC's from ectopic salivary gland tissue is least considered as no consistent features are evident on histological examinations [5,6].

The first review of case reports of CMC's was made by Smith et al. in 1968 [7]. Eversole et al. in his study found that 50% of the CMEC's had a relation between the dental cysts or impacted tooth [8]. However, a study conducted by Yue He et al in 2011, with 24 reported cases of CMEC's showed no significant relationship between CMC's and dental cysts or impacted teeth [9]. Histiopathogenesis of CMC's as such is poorly understood. CMCs are rare in occurrence with only 130 cases reported in literature till the year 2015 [6].

CMC's have female predilection with mandible involving more frequently than maxilla, as seen in the present case. Premolar, molar, and angle of the mandible are the most common sites involved. Clinical presentation of the tumor varies from mild painful swelling to asymptomatic swelling along with paresthesia. Tooth pain may also be the chief complaint in certain cases [6]. They usually present as low-grade histological variants.

Conservative treatment procedures like curettage have high recurrence rate [10]. Studies consider en bloc resection along with radical neck dissection for involved lymph nodes is the standard treatment followed for CMC's. Further radiation therapy is indicated for high-grade tumors.

CONCLUSIONS

CMC is a malignant neoplasm, the clinical course of which may appear benign. They are often misinterpreted and diagnosed lately leading to undesired sequelae. As such any such ambiguous lesion should be evaluated thoroughly and treated early. The present case report provides a clue for understanding this variant of mucoepidermoid carcinoma by adding to the literature.

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