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Extended Abstract

Clear Cell Odontogenic Carcinoma of the Mandible: A Case Report †

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1. Background

Clear cell odontogenic carcinoma (CCOC) is a rare malignant odontogenic tumor histologically characterized by sheets and lobules of vacuolated and clear cells. To date, only 107 cases have been reported in literature since its first description by Hansen et al. in 1985 [1]. Initially classified as a benign neoplasm with the tendency to local invasion., in 2005 the World Health Organization redefined CCOC as a malignant tumor of odontogenic origin, characterized by local recurrence and presence of nodal metastases. Due to its infrequency, diagnostic criteria, protocols, and prognosis of CCOC are often not fully understood [2,3]. Additionally, CCOC shares comparable clinical and pathological characteristics with other diseases, possibly leading to misdiagnosis [4].

2. Case Presentation

A 64-year-old female patient was referred to the Unit of Dentistry and Oral Surgery, University of Pisa, for the evaluation of a gingival tumefaction in the anterior mandible. Considering medical history, the patient was affected by diabetes mellitus and hypertension, and was under pharmacologic treatment with Metformin, Levothyroxine, and Amlodipine.

At clinical examination, the patient showed an ulcerated gingival mass localized in the right mandible, associated with grade III mobility of tooth 43 (Figure 1). Panoramic radiograph showed a multilocular mixed area involving the right side of the mandible (Figure 2). CT-scan showed an osteolytic lesion with bicortical bone destruction. Incisional biopsy was performed, and on the basis of the histopathologic examination a diagnosis of amelobastic carcinoma was made. Head and neck MR and total body PET-CT were performed to further investigate the lesion. Radical surgery included hemimandibulectomy and lymph node dissection, obtaining clear resection margins. A fibula osteoseptocutaneous flap was employed for the reconstruction of the post-surgical composite-tissue defect of the mandible. interestingly, second histology of the surgical specimen revealed a diagnosis of CCOC (positive immunodetection for anti-AE1/AE3, anti-CK19).

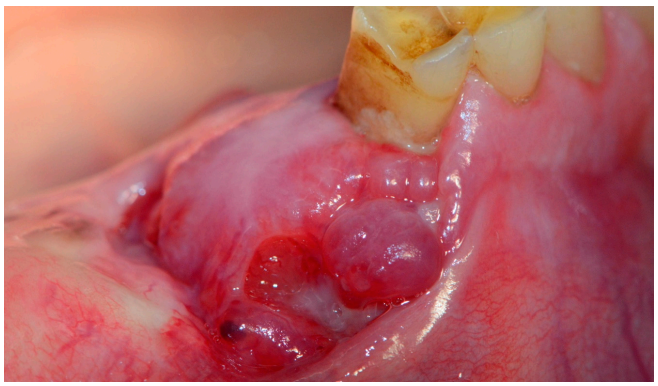

Figure 1. Clinical aspect of the lesion, involving alveolar ridge and tooth 43.

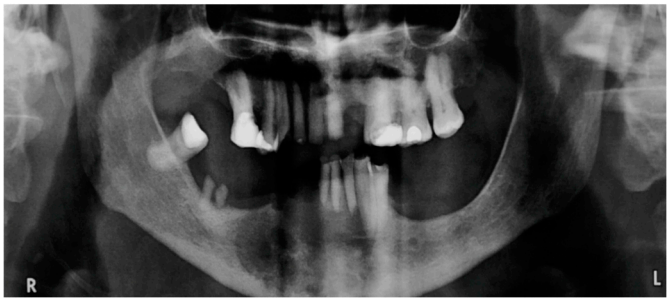

Figure 2. Panoramic radiograph. Radiolucent inhomogeneous area involving the right side of the mandible.

3. Conclusions

COCC is a rare tumor with major diagnostic difficulties. Immunohistochemistry analysis plays a key role in differential diagnosis with other odontogenic tumor. As suggested in other studies, the best treatment for COCC is wide local excision combined with regional lymph node dissection.

Conflicts of Interest: The authors declare no conflict of interest.

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