



Mucoepidermoid Carcinoma of Hard Palate in a Pediatric Case

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Authors' contributions

This work was carried out in collaboration between all authors. The all authors designed, analyzed and interpreted and prepared the manuscript. All authors read and approved the final manuscript.

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Case Study

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ABSTRACT

Salivary gland neoplasms are rare in childhood. Only 1 to 5.5% of minor salivary gland tumours occur in children and adolescents. The most common malignant minor salivary gland tumours are mucoepidermoid carcinomas (MECs). Herein, we present a rare case of mucoepidermoid carcinoma occurring in the hard palate.

Presentation of Case: A 12-year-old boy visited our hospital with a swelling and ulceration of the right hard palate. Clinical examination revealed a localized mucosal nodule of the right posterior hard palate, measuring 1*1 cm. Biopsy was performed. The tumour was diagnosed as a low grade MEC. Wide excision was performed. The patient didn't need another therapy. During 15-month follow-up, the patient showed no evidence of local tumour recurrence or metastasis.

Discussion: Mucoepidermoid carcinoma occurring in the oral cavity is extremely rare. These tumours are usually presenting as a painless, reddish-purple nodule. Biopsy is necessary for definitive diagnosis. Histologically, MECs are divided into low, intermediate and high grade subtypes. Differential diagnosis of palatal tumours in children include pleomorphic adenoma, benign or malignant mesenchymal tumours, and less commonly giant cell granuloma. A wide local excision with safe free margins is the operative procedure for low-grade MECs.

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1. INTRODUCTION

Salivary gland tumors are rarely seen in childhood, accounting for only 4-5% of all pediatric head and neck tumors [1]. As with adults, salivary gland tumors of childhood are most frequently localized in parotid gland. Furthermore, these tumors are less commonly localized in minor salivary glands [2]. Two most common tumors developed in oral salivary glands are pleomorphic adenoma and mucoepidermoid carcinoma (MEC) [3]. MEC is developed most frequently in the parotid gland, followed by the submandibular gland. Furthermore, the most common presentation of oral MEC is palate [3].

MEC is classified into 3 groups as; low, intermediate, and high grade [4]. The risk of distant metastasis is extremely rare in low grade tumors. High grade tumors show a more aggressive course [5].

The aim of this study is to present the clinical approach of hard palate MEC in pediatric case.

2. PRESENTATION OF CASE

A twelve year old male patient was admitted to our clinic with the complaint of swelling on his palate. According to his medical history, the swelling had been present for 11 months, and had gradually grown in size. His examination revealed a mucosal nodular lesion at the posterior right side of the hard palate which was approximately 1x1 cm in size. The magnetic resonance imaging (MRI) examination showed mucosal mass which didn't show any bone destruction (Fig. 1). Radiological findings were suggesting a low grade or a benign tumor of hard palate. Incisional biopsy was performed and histopathological examination revealed the diagnosis of MEC (Figs. 2, 3). PET-CT scan metabolic activity was only seen at the site of the lesion in hard palate, there was not any sign suggestive of metastasis. Large surgical resection was performed for the purpose of treatment. Afterwards there was no need for any additional treatment. After 15 months follow up, the patient did not show any sign of recurrence or metastasis (Fig. 4).

3. DISCUSSION

Epithelial derived minor salivary gland tumors account for 10-15% of all salivary gland tumors

[6]. It has been estimated that about 1% to 5% of all salivary gland tumors of childhood and MEC is the most common malignancy [7]. In Ritwik et al's study, among twenty MEC cases diagnosed in the first and second decades of life; the mean age was 13.5 and most common presentation age was fourteen, female/male ratio was 2.3/1 and most common side was hard palate [4]. While MEC is most commonly seen in the parotid gland (80%), it is rarely seen in minor salivary glands [8]. Intraoral MEC is most commonly presented in the palate, with other localizations including the buccal mucosa and retromolar area [9]. The disease often manifests with painless swelling. Symptoms such as bone destruction and numbness can be observed in tumors with an aggressive course [10]. A biopsy should certainly be performed in order to obtain the diagnosis. Tumors are histopathologically classified as high, intermediate, and low grade. Low and intermediate types are more common in children [2]. While low grade tumors contain a high proportion of mucus cells and multi-cystic areas, high grade tumors have lower proportion of mucus cells [6].

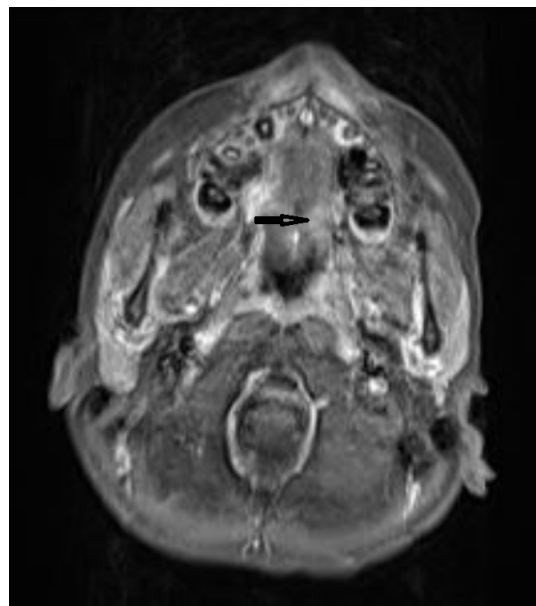


Fig. 1. MRI showed a mass at the posterior right side of the hard palate

Most of odontogenic and nonodontogenic tumors are in differential diagnosis of MEC in clinical approach. Malignant and benign salivary glands are extremely rare in pediatric patients, this issue causes diagnostic challenge in early diagnosis.

Mucocelle and salivary gland tumors usually have similar clinical features. In a pediatric case with palatal cystic lesion usually first step prediagnosis is mucocelle. Both mucocelle and low-grade MECs may comprise mucous cyst and pseudocyst. As result both lesions may present with bluish-purple submucosal fluctuant swelling [6,11].

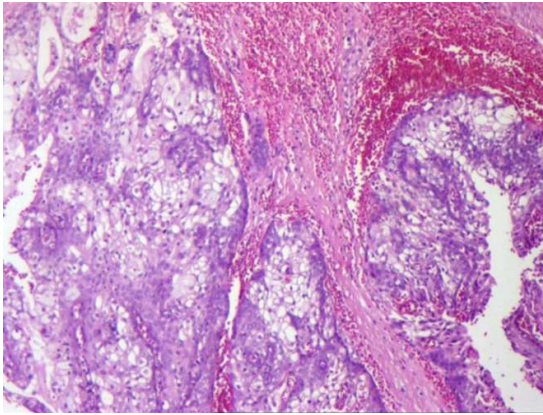


Fig. 2. Histopathological appearance of tumor (Hematoxylin& eosin, x100)

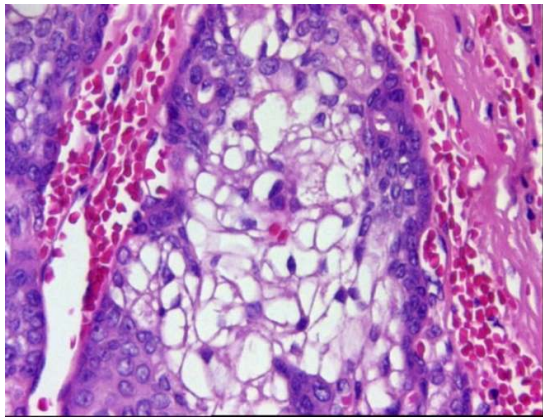


Fig. 3. Beside intermediate cells; widespread clear cells which contain glycogen and mucin are seen. (Hematoxylin& eosin, x400)

Before planning the treatment, degree of extension and presence of distant metastasis should be determined by imaging methods. While the CT demonstrates presence of bone destruction very accurately, and MRI gives information about soft tissue invasion [11]. If there is no bone destruction, large mucosal resection would be sufficient for treatment. Since recurrence rates in low grade MEC are lower than 10%, there is generally no need for

additional treatment [4]. We did not detect bone destruction in our case, as a result large mucosal resection was determined to be sufficient. If there is invasion of the bone, bone resection is added to large resection [4]. Furthermore, routine radiotherapy is not recommended during the postoperative period. Due to the adverse effects of radiotherapy on maxillofacial development which is most notably in children. Radiotherapy is recommended only for patients who have a positive surgical border [12]. In addition, radiotherapy should never be regarded as an alternative to surgical treatment in MEC [11].

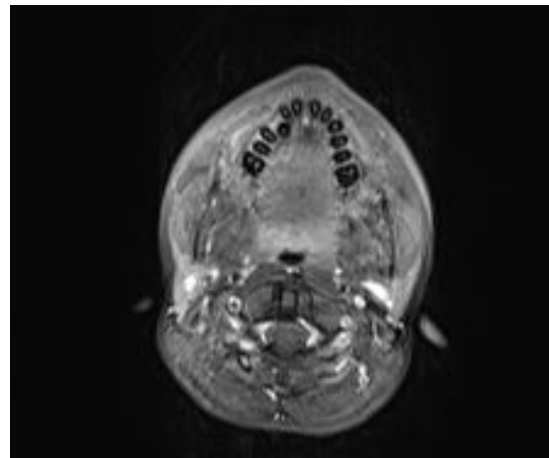


Fig. 4. MRI observed normal

4. CONCLUSION

MEC is the most common malignant tumor of the salivary glands, but it rarely seen in childhood. Nonetheless, these lesions should be considered in the differential diagnosis of painless, long-standing masses developing in the oral cavity during childhood.

CONSENT

The patient's parents have given their informed consent for the case report to be published Journal.

ETHICAL APPROVAL

It is not applicable.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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