Mucoepidermoid carcinoma of palate mimicking vascular lesion: A case report.

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ABSTRACT

Salivary gland carcinomas are a rare and clinically diverse group of neoplasms among which mucoepidermoid carcinomas (MEC) are reported to be most frequently occurring. MEC display a variety of biological behaviors and variable natural history. We report a case of mucoepidermoid carcinoma mimicking vascular lesion. Histopathological features suggested low grade mucoepidermoid carcinoma. Surgical resection was done. Follow up of two years did not show any recurrence. Maxillary MEC should be followed-up for longer period as they have worse prognosis than mandibular lesions.

Key Words: Mucoepidermoid carcinoma, palate, surgery.

Introduction

Mucoepidermoid carcinoma (MEC) is most common malignant salivary gland tumor, first studied and described as a separate distinct pathologic entity by Stewart et al in 1945. 1 It consists of both epidermal and mucous cells in varying proportion, hence the name. It accounts for less than 10% of all salivary gland tumors. 2,3 About 2/3 arise within the parotid gland and 1/3 arise within the minor salivary glands. MEC may develop at any age but occurs most frequently between the third and sixth decades and affects women more often than men (3:2). Approximately half of these tumors (53%) occur in major glands; the parotid gland is affected most frequently (45%), followed by the minor salivary glands of the palate. 4 Also the percentage of benign tumors occurring in the palate was higher than that of malignant tumors. 1

Histologically, MEC is classified into three types of malignancy— low, intermediate, and high grade using five histopathological features namely intracystic component, neural invasion, necrosis, mitosis and anaplasia. 4,6 MEC displays a variety of biological behaviors, and that while the high-grade MEC is a highly aggressive tumor, its low-grade counterpart usually demonstrates a more benign nature. 1 The prognosis of MEC varies; depending on the clinical stage and histological grade. 8 The main therapeutic method in the treatment of MEC, like in most types of salivary gland malignancies, is surgical resection and postoperative radiotherapy seem to be efficient to achieve local and regional control of the disease. 6

Case report

58 years old female patient came to us with the chief complain of a swelling in the palate since 6 months. Swelling was of pea size nut size when she noticed and is gradually increasing in size. It is not associated with any pain or discharge. Her medical and family histories were non contributory. Patient was in good physical condition. Extra oral examination was unremarkable. On intraoral examination a swelling of size 1.5x 0.5 cm approximately; slightly bluish in middle part of the lesion was seen in the palate slightly left to the midline (Figure-1). It extended anteriorly to mesial of 2nd premolar and posteriorly to mid of 2nd molar. On palpation it is not tender, firm to soft and cystic.
in consistency, noncompressible with slightly indurated borders. Aspiration yielded bloody aspirate and it caused collapsing of the lesion, which regained its size within 1 to 2 minutes. Initial clinical diagnosis of vascular lesion with differential diagnosis of minor salivary gland malignancy was made.

Color Doppler study indicated possibility of a low flow malformation. C.T. scan revealed circumscribed mass with cystic component ruling out presence of a vascular lesion and diagnosed it as a cystic lesion (Figure-2). Chest X ray was taken to rule out metastases which showed no abnormality. Her hematological parameters were in normal limits. The treatment plan consisted of surgical resection of the lesion involving 0.5 cms of the normal bone. On surgical exposure the lesion was a blackish bilobed lesion (Figure-3) which was resected with about 0.5 cm normal bone around (Figure-4). Any sharp bony edges were trimmed, primary closure was done and palatal splint was placed which was removed on the fifth day (Figure-5). Postoperative healing was uneventful (Figure-6). Follow-up of two years did not show any recurrence.

Histological examination showed prominent micro cystic areas, two foci of prominent cellular areas are also evident which consists of heterogeneous cellular population.
clear cells with intertwining cystic spaces. Some of the micro cystic areas show two to three mucous lining cell layers. Lesion shows presence of both host bone and metaplastic bone and areas of infiltration of lesion in host trabeculae. Large micro cystic area contains necrosed tissue remnants. These micro cystic areas are surrounded by thick fibro-collagenous tissue and partially covered by capsule. Adjacent large foci of mucous acini resembling minor salivary gland along with salivary ducts are evident. Few hemorrhagic areas and diffuse mild to moderate inflammatory cell infiltrates are also evident confirming the diagnosis of low grade mucoepidermoid carcinoma (Figure-7).

Discussion:

MEC was first described by Massao and Berger in 1942. MEC of salivary gland is believed to arise from pluripotent reserve cells of excretory ducts that are capable of differentiating into squamous, columnar, and mucous cells. Subsequent metastasis of few of previously benign tumors has led to all mucoepidermoid tumors being considered as carcinoma. MEC occurs commonly in parotid glands with minor glands being second most common site. Although these accounts for less than 10% of all tumors of salivary glands, it constitutes approximately 30% of all malignant tumors of salivary glands.

Clinically, the majority of palatal MEC appears as firm swellings and may mimic mucoceles or vascular lesions. The mucosa overlying palatal tumors can be papillary and the cortical bone may display superficial erosion. The lesions usually are painless; however, symptoms can include pain, paresthesia, dysphagia, and bleeding.

Clinical findings and investigations in the present case indicated a surface lesion. Blue to red color of the lesion may suggest vascular or salivary gland origin. Blue to red color that was observed can be attributed partly to cystic spaces of tumor associated vascular ectasia. Lee and Yoon presented a similar case of highly vascular MEC. Histopathological diagnosis confirmed the lesion to be low grade MEC in the present case. MEC is well known to display a widely diverse biological behavior and variable clinical manifestations which seems to correlate the tumor stage and grade.

Low-grade MEC macroscopically are small and partially
encapsulated and microscopically characterized by the presence of more mucous-producing cells than epidermoid and intermediate cells. Prominent cystic structures lined by mature mucous, intermediate, or epidermoid cells are the hallmark of these tumors. Solid areas are not evident and prominent fibrous stroma often is present. All of these features were found in the present case. Low-grade MEC usually grows in a relatively well-circumscribed manner, without small infiltrative islands at the tumor border. Intermediate comprises of solid rather than cystic architect with more intermediate cells than mucinous cells. Intermediate cells are capable of differentiating into mucous or epidermoid cells.

The high grade tumors consist primarily of epithelial cells, with very few mucinous cells. High grade tumors are less likely to demonstrate a capsule because of rapid growth and local tissue invasion. Distant metastasis in MECs implicates an unfavorable prognosis although the biological behaviour of the metastatic deposits has a slow progression. When distant metastases develop in patients with minor salivary gland tumors the average survival is 2.3 years and in those with tumors of the major salivary glands is 2.6 years. The lung is the most commonly involved site of metastasis.

For the MECs, the histopathological stage of the tumor is to be associated with the clinical findings (rapid or slow development, symptomatic / asymptomatic, the location of the tumor, in the palate, in the floor of the mouth, the clinical staging T1 –T4), before any treatment decisions are made. Complete surgical excision remains main modality of treatment for MEC. Adequate excision is important in all grades of tumor. The treatment of choice for low-grade MECs is complete, wide surgical resection of the tumor with free surgical margins. High grade MEC requires wide surgical excision, neck dissection for clinically positive necks and post operative loco-regional disease control. MEC has been considered a radio resistant tumor though postoperative radiation is thought to be effective. Post radiotherapy for MEC patient with positive surgical margin has been reported to decrease local failures. Proper reconstruction of the involved areas after surgery remains major challenges for the surgeon. Prognosis of MEC is a function of the histological grade, adequacy of excision, and clinical staging. Prognosis of MEC is a function of the histological grade Ki-67 expression may provide additional prognostic information for this tumor.

In our case, surgical excision of the lesion was done along with bony margin, healing was good, proper splinting after surgical resection has increased the function and outcomes of the patient. There was no evidence of any recurrence after 2 years. Local recurrence is low. Most recurrences occur within 1 year of treatment and tend to occur rapidly in high grade than low grade neoplasm up to 60% of patient. Survival rates are 92% for low grade, 83% for intermediate and 24% for high grade.

**Conclusion**

Mucoepidermoid carcinoma is the most common malignant salivary gland carcinoma involving minor salivary glands. It has the appearance of bluish dome shaped swelling and can be confused with hemangiomas or mucoceles.

**References:**

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