

Case Report

Mucoepidermoid carcinoma of parotid in children-A rare case report

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Abstract

Introduction: Mucoepidermoid Carcinoma of the parotid arises from the pluripotent cells of the gland. It accounts for 5 percent of the salivary gland tumors that arise in the salivary gland.

About 45% of mucoepidermoid carcinomas occur in the parotid gland, and appear around the fifth decade of life but it is very rarely found in pediatric age group. Here we report a case of mucoepidermoid carcinoma in a 10-year-old girl who presented with an asymptomatic mass on the left cheek for 1 year.

Case Report: We report a case of a 10yr female child with complains of swelling on left side of the cheek which was painless, slow-growing mass and was firm since 1 year. USG showed mass in the parotid region with enlarged juglodiagastic node. FNAC showed possibility of Mucoepidermoid carcinoma of the parotid. Patient was then taken for OT and surgical treatment involved total parotidectomy and facial nerve was preserved as much as possible along with neck dissection which involved excision of juglodiagastic lymph node. The postoperative period was uneventful. On follow up after 6 months the patient was asymptomatic and there was no recurrence.

Conclusion: Mucoepidermoid carcinoma of the parotid is very rare in children. Clinical stage and histological grade are the main prognostic factors. Complete excision with preservation of facial nerve is the treatment of choice. Neck dissection should be considered when there is clinical evidence of regional metastasis, high TNM stage, high histologic grade, and involvement of regional nodes. Because of the possibility of long-term adverse effects in pediatric patients, radiotherapy should be used only in selected cases. Long-term follow-up is essential to rule out late recurrence. Although rare, the presence of a parotid mass with progressive growth in a child could correspond to a mucoepidermoid carcinoma.

Keywords: Mucoepidermoid Carcinoma, pluripotent cells, parotid

1. Introduction

Salivary gland tumors account for less than 5% of the head and neck neoplasm. Among them, mucoepidermoid carcinoma is the most common malignant salivary gland tumor, being unusual in children under 10 years. Although mucoepidermoid carcinoma (MEC) is the most common malignant salivary gland neoplasm in childhood and adolescence, about 45% of mucoepidermoid carcinomas occur in the parotid gland, and appear around the fifth decade of life it is rarely found in pediatric age group. In 1945, Stewart et al, recognized Mucoepidermoid of the salivary gland as a separate entity among salivary neoplasm. A mucoepidermoid carcinoma account for 5% of all salivary gland tumours commonly arise within the parotid gland. Mucoepidermoid Carcinoma is thought to arise from pluri-potent reserve cells of the excretory ducts of salivary gland that have the potential to differentiate into squamous, columnar and mucous cells¹. Although no specific etiologic factors have been identified exposure to ionizing radiation has been reported in some cases². The tumor is a firm to hard mass and usually asymptomatic. Pain is associated with high grade malignant tumors. Mostly they do not cause facial nerve paralysis when they occur in parotid gland³. Mucoepidermoid carcinoma, have a prognosis based upon the clinical stage and histological grade with a good prognosis of Mucoepidermoid carcinoma in children as majority of them are well differentiated or grade I neoplasm⁴. Low grade mucoepidermoid carcinoma has a better 5 year survival rate from 92–100 % compare to high grade mucoepidermoid carcinoma with 0–43 % survival rate⁸ with an overall incidence of lymph node involvement ranges from 18–28%. Postoperative local recurrence is more likely to occur in patients with positive margins regardless of the grade. We report on an unusual unique case of mucoepidermoid carcinoma parotid in a 10 year old girl.

2. Case Report

A 10 year old girl presented to our outpatient department with painless swelling in left parotid region since 1 yr. The swelling progressively increased in size of a peanut to present size of a large lemon. The patient had undergone an Incision and drainage at a local doctor in the village 3 months back. Patient's medical history was unremarkable.

On examination a firm, discrete, conical swelling of size 5x3.5x3 cm was found with an area on necrosis of around 2x1.5x1.5 cm in size on the top of the swelling (Figure 1a and 1b). Fluctuation, reducibility, compressibility, movement with deglutition was absent. Her facial nerve showed signs of paresis and in the regional lymph nodes, a single 1.5 x 1.5 cm juglodiagastic lymph node was palpable.

Ultrasound examination findings showed a mass, with a cystic component, possibility of the parotid gland with an enlarged juglodiagastic node of 1.5 x 1.5 cm. FNAC was suggestive of mucoepidermoid carcinoma of parotid.

The patient was taken up for Total Parotidectomy. Under general anesthesia through a 'S' shaped incision the mass was exposed after keeping a circular incision on the area of necrosis (Figure 1b) and exposing the tumor after that the masseter muscle was divided. It was found to be irregular and firmly adherent to underlying structures, raising the suspicion of malignancy. After removal of mass the deep lobe of parotid gland could be seen and it was removed (Figure 2). The facial nerve was preserved as much as possible (Figure 3) and the juglodiagastic lymph node was removed and sent for histopathological examination along with the gland. The wound was closed in layers after placing a drain.

Histopathological slides showed presence of intermediate cells and focal secreting cells forming a trabecular pattern with predominant tubular microcytic appearance and nuclei shows mild pleomorphism, mitotic activity 1-2/10 HPF, necrosis absent. The specimen of the lymph node did not show any evidence of metastasis. The patient recovered smoothly and was discharged on 6th postoperative day. ON follow up after 6 months the patient was asymptomatic and there was no recurrence. The unusual presentation of mucoepidermoid carcinoma of parotid is one of the rare youngest reported patients.

Figure 1a and b: Showing the location of the parotid tumor and the area of fungating mass on the top of the gland where at a local hospital Incision and Drainage of the gland had been attempted.



Figure 2: Showing the parotid gland along with the branches of the Facial Nerve.



Figure 3: Showing area after dissection of gland, facial nerve tried to be preserved as much as possible.



3. Discussion

Salivary gland tumors account for less than 5% of head and neck neoplasm with mucoepidermoid carcinoma is the most common malignant tumor mostly arises in parotid gland⁵. The paediatric parotid gland and peri-parotid region are subject to a variety of lesions and are most often evaluated with ultra sound, contrast CT and MRI. Ultrasound distinguish cystic from solid lesion and guide fine needle aspiration⁶. Tumors of the salivary glands are uncommon in children; accounting for only 1% of all paediatric neoplasm commonly arises in parotid gland⁷. Up to 65% of the tumors are benign and larger the gland of origin in children the most likely that tumor will be malignant. Mucoepidermoid carcinoma is the most common malignant salivary gland neoplasm in children and adolescence and is rarely found in children under the age of 10 years. Up to 35% of all salivary neoplasms in children are malignant, and 60% of these are mucoepidermoid carcinoma⁸. The histological pattern in mucoepidermoid carcinoma consists of a combination of squamous and mucous cells arranged in cords, sheets, or cystic configuration and are classified as low, intermediate or high grade. 10 up to 35% of all salivary neoplasms in children are malignant, and 60% of these are mucoepidermoid carcinoma⁸. The histological pattern in mucoepidermoid carcinoma consists of a combination of squamous and mucous cells arranged in cords, sheets, or cystic configuration and are classified as low, intermediate or high grade. Mucoepidermoid carcinoma is treated surgically with local wide block excision for low grade neoplasms and wide block excision with radical neck dissection for high grade neoplasms where there is clinical evidence of regional metastasis, high TNM stage, high histological grade and involvement of regional lymph nodes. Radiotherapy should be used only in selected cases because of long term adverse effects and the role of chemotherapy in the management of mucoepidermoid carcinoma is generally reserved for patients with aggressive local or metastatic disease that is not amenable to surgical or radiation therapy with long term follow up is essential to rule out late recurrence.⁹

4. Conclusion

Mucoepidermoid carcinoma of the parotid is very rare in children. Clinical stage and histological grade are the main prognostic factors. Complete excision with preservation of facial nerve is the treatment of choice. Neck dissection should be considered when there is clinical evidence of regional metastasis, high TNM stage, high histologic grade, and involvement of regional nodes. Because of the possibility of long-term adverse effects in pediatric patients, radiotherapy should be used only in selected cases. Long-term follow-up is essential to rule out late recurrence. Although rare, the presence of a parotid mass with progressive growth in a child could correspond to a mucoepidermoid carcinoma.

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