

# Dilemma in Diagnosis of Parotid Gland Swelling: A Case Report of Pilomatrix Carcinoma Involving Parotid Gland

Dilemma in  
Diagnosis of  
Parotid Gland  
Swelling

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## ABSTRACT

Pilomatrix carcinoma mostly occurs in the head & neck region and upper and lower extremities are also known sites of pilomatrix carcinoma. It is usually misdiagnosed as other benign tumors and leads to inadequate treatment planning which eventually results in recurrence as in our case. We present this case due to its relative rarity, to raise awareness about its clinical features, diagnosis and treatment. A male patients with age 27 years old presented to our OPD with complains of recurrent swelling in right infra auricular region. It was diagnosed as keratinizing squamous cell carcinoma. Primarily diagnosed with the help of FNAC, CT scan and finally with excisional biopsy of the mass.

**Key Words:** Pilomatrix Carcinoma, Parotid Gland, Malignant Pilomatricoma, Tumor

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## INTRODUCTION

Pilomatrix carcinoma most commonly occurs in the head & neck region and back especially in sun damaged skin<sup>1</sup>. However upper and lower extremities are also known sites of pilomatrix carcinoma. This neoplasm is dermo-hypodermic in nature and is mostly known among dermatopathologists and dermatologists<sup>2</sup>. Due to its relative rarity in the parotid gland Oral & Maxillofacial Surgeons usually do not consider it in the differential diagnosis and misdiagnosed as other benign tumors (cysts, adnexal tumor, granulomatous inflammation) or as malignant tumor such as (SCC, small round blue cell tumor, malignant skin appendages).

Pilomatrix carcinoma is a malignant variant of pilomatricoma also known as malignant pilomatricoma, metrical carcinoma and calcifying epitheliocarcinoma<sup>3</sup>. It is a low grade malignant lesion which is locally aggressive with low metastatic potential.

Common presentation is a hard slow growing subcutaneous mass associated with pain and inflammation.

It frequently appears as single nodule and it varies between 1-1.5cm in size<sup>4</sup>. Due to the small number of cases optimal treatment has not been established. Most publications advocate wide local excision with adequate margins varying between 5mm -2 cm. The role of postsurgical radiotherapy and chemotherapy has not been established.

## CASE REPORT

A 27 year old male presented to our OPD with complains of recurrent swelling in right infra auricular region. Patient provided written informed consent for the use of his images and publication for this case. According to the patient the swelling first appeared 8 months back for which FNAC was done and showed lymphoepithelial lesion. He underwent excisional biopsy of the mass 3 months back. Specimen was well defined and lobulated measuring 4.0 x 2.0 x 1.0 cm and grayish white in colour. On cut section the surface was homogenous with flecks of white. It was diagnosed as keratinizing squamous cell carcinoma. After the biopsy he started noticing recurrence of the swelling which was progressively increasing in size, not associated with pain or fever. We advised CT scan face with contrast which showed a complex soft tissue density enhancing mass in the parotid gland measuring about 1.9 x 1.1cm. PET CT scan was advised for detection of distant metastasis. It showed peri lesional fat stranding and overlying skin thickening. Findings were consistent with recurrent disease in the surgical bed. Therefore patient was planned for wide local excision with ipsilateral neck dissection upto level IV, followed by primary closure with rotational advancement flap (Figure 1). Patient had no complication other than early postoperative pain. Postoperative radiotherapy was

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advised but patient refused. PET CT scan was repeated after 7 months for detection of metastasis which is rare but could be fatal. On PET CT scan there was no

metastasis and surgical bed was disease free (figure: 2). Patient is on regular clinical follow up and no local recurrence or metastasis has been observed in 2.5 years.



Figure No.1: Wide local excision of a tumor along with neck dissection

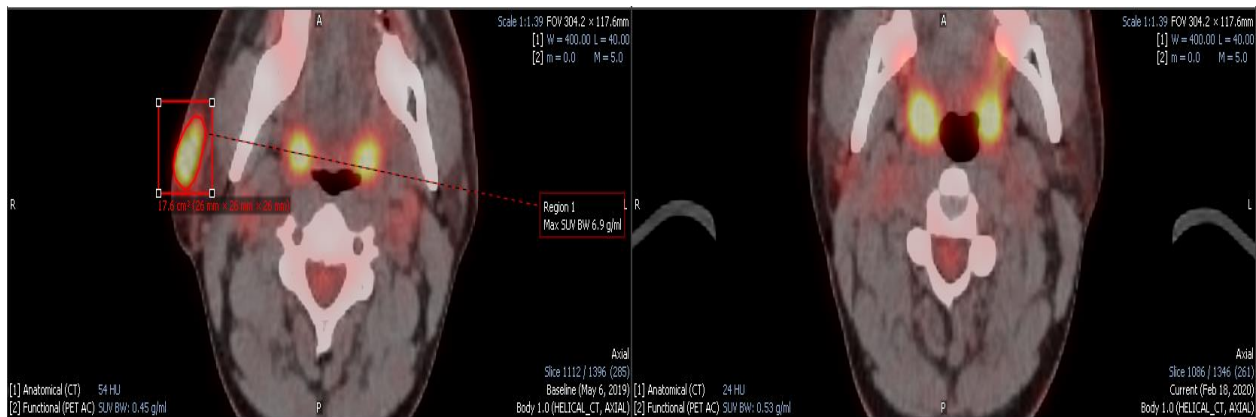


Figure No.2: Comparison of preoperative and postoperative PET CT scan

## DISCUSSION

As misdiagnosis of pilomatrix carcinoma is common due to its atypical presentation and leads to inadequate treatment planning which eventually results in recurrence as in our case. Pilomatrix carcinoma can occur as a solitary nodular lesion or as transformation of long standing pilomatricoma<sup>5</sup>. It is more common in males than females with a ratio of 3:1 and more common in head and neck region especially sun exposed skin<sup>6</sup>. Investigations include FNAC which is not useful in distinguishing it from other tumors as it shows only malignancy in aspirated cells. There is no clear radiological criteria of pilomatrix carcinoma. However, CT and MRI can be useful in determining the extent of the lesion, bony invasion as well as nodal metastasis. PET-CT is recommended to rule out distant

metastasis, which is rare but cases of lung metastasis have been reported. Most histopathologists are challenged in diagnosing this tumor as there is no clear histological criteria in distinguishing this entity from other tumors. However, some histological findings could help in diagnosis such as increased mitotic rate, prominent nucleoli and cellular pleomorphism. These findings were also noticed in our case. Other characteristic features of pilomatrix carcinoma are epithelial islands of basaloid cells, ghost cells or shadow cells, deposits of basophilic calcium, infiltration of skin and soft tissue, central necrosis and invasion of the blood and lymphatic vessels. Some immunohistochemical markers such as Ki-67 expression in the peripheral portion indicate that tumor has high proliferation rate and is invasive. Recommended surgical treatment for is wide local

excision with safe margins of (0.5-2cm). Role of radiotherapy is yet to be established. In our case patient remained tumor free for more than 2 years without radiotherapy. There is no effective chemotherapy accepted for control of local growth. For surveillance of local recurrence regular physical examination is recommended. Ultrasound, MRI and PET-CT scan could be used. Biopsy could be performed to analyze recurrent mass.

**Author's Contribution:**

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