Case Report:
Basal Cell Adenocarcinoma of Parotid Gland

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Citation

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Abstract: Basal cell adenocarcinoma (BCAC) of salivary gland is a rare tumor, only few reports have been described in the literature so far. These tumors appear benign clinically. Metastasis is reported in less than 10% of cases. BCAC is considered as low-grade carcinomas due to its biological behavior and prognosis. Parotidectomy with preservation of the facial nerve is considered as treatment of choice. Neck dissection has to be performed in cases with cervical metastases. Radiation is advisable in patients with recurrent disease or neck nodal metastasis. Intensive follow-up is necessary because there is 30% recurrence rate. In this case report, we describe a giant basal cell adenocarcinoma in a 50-year-old female patient who was managed with extended parotidectomy along with excision of intralesional facial nerve and involved adherent skin. Reconstruction was done with latissimus dorsi flap and sural nerve cable grafting for facial nerve.

Key Words: Parotid gland, Basal cell adenocarcinoma, Facial nerve

Introduction:
BCAC is rare tumor, very few reports have been described in literature. Benign counterpart of Basal cell adenocarcinoma is basal cell adenoma. In view of differences in prognosis and potential variations in treatment, it is important to differentiate between Basal cell adenocarcinoma and other basaloid tumors of salivary gland.

Case Report
A 50 years old female patient presented to ENT clinic with progressively increasing, painless, massive swelling on right side of the face since last 8 years. On examination, a swelling of size 15cmx14cmx10cm on right side of face, firm in consistency, lobulated, non-tender, non-pulsatile, non trans illuminant, overlying skin adhered, extending superiorly to upper limit of temporal bone, inferiorly till angle of mandible, anteriorly up to zygoma, posteriorly till nape of neck (Figure 1,2). Patient had no palpable neck nodes or visible intraoral swelling.

Figure 1: Clinical photograph of BCAC anterior view.
MRI of head and neck was done which showed huge soft tissue mass in the parotid gland projecting to the pre-and post-auricular region and inferiorly over the cervical region but no underlying bony involvement (Figure 3).

Percutaneous fine needle aspiration for cytology (FNAC) showed admixture of epithelial, myoepithelial, and chondromyxoid elements in a hemorrhagic stroma. There were no features suggestive of malignancy (Figure 4). Based on FNAC findings, a preliminary diagnosis of Pleomorphic adenoma was made, and the patient was counseled for extended parotidectomy with explained prognosis of facial nerve.

Surgery Procedure
Under general anesthesia, after marking all around lesion as shown in Figure-5, incision was given sacrificing lobule of pinna, extending anteriorly, inferiorly as shown in Figure-6, flaps were raised, facial nerve was identified and found entering into tumor mass. Superior and inferior release of tumor mass done with preservation of frontal branch, zygomatic branch and marginal mandibular nerve branches of facial nerve by retrograde tracing. Complete removal of tumor was done, with right level II lymph node clearance which was found to be enlarged, since surface skin was not healthy which was excised along with tumor leading to large defect which was repaired with the help of right latissimus dorsi muscle flap (Figure 8). Sural nerve cable grafting was done with remnant three branches of facial nerve preserved (Figure 7). Excised tissue sent for histopathological examination. There was post-operative grade II facial nerve palsy which recovered in 2 weeks. Patient was advised for radiotherapy based on histopathology report. Patient is kept on regular 2 weeks follow up for initial 3 months and then every 1 month follow up for 1 year.
Histopathology Report

Low grade malignancy without perineural and peri vascular invasion, multicentric, with variable cytological atypia and mitotic activity. Polygonal cells with eosinophilic/amphophilic cytoplasm and clear nuclei with solid trabecular pattern suggesting features of BCAC (Figure 9).

Figure 9: Histopathology slide of BCAC.

Discussion

In 1991 World Health Organization included Basal cell adenocarcinoma as a subtype of salivary gland tumor.[1] In 2005 World Health Organization classification of salivary gland tumors categorized Basal cell adenocarcinoma as low-grade tumor with favorable prognosis. [2] Basal cell adenocarcinoma comprises 1.6% of all salivary gland neoplasms and 2.9% of malignant salivary gland neoplasms of which 90% of cases reported are in major salivary glands, usually parotid. They appear as solid grey tan tumor which arise from pluripotent ductal reserve cells. Histologically perineural invasion and/or vascular invasion, invasive destructive nature differentiates from Basal cell adenoma. Cellular atypia and mitosis may help to little extent but not warrant the diagnosis. Rarely tumor exceeds greater than 7cms. However, in our case tumor size was 15cmx14cmx10cm. [3]

Recently isolated reports of fine-needle aspiration cytology of these tumors were described. These tumors are characterized by basaloid-cell clumps with hyperchromatic nuclei and scanty cytoplasm, along with characteristic peripheral features like palisading poor cohesiveness, and/or intermingling with fat cells.[4] Cytological features of Basal cell adenocarcinoma are not distinctive according to Gary et al, but the presence of two cell populations with moderate pleomorphism and rosette like pattern with central, eosinophilic globules may help its differentiation from other salivary gland neoplasms.[5] Previous reports clear that Basal cell adenocarcinoma do not have malignant potential to metastasize and lead to death. It is believed to be low grade adenocarcinoma, with relatively good prognosis. Basal cell adenocarcinoma is locally destructive and have tendency to recur. Primary treatment is aimed at wide local excision with margins. [6] Local recurrence was reported in 28% of the cases of Ellis and Wiscovitch. [7] Radiotherapy has been proposed over enucleation and curettage since there is high likelihood of vascular and neural invasion, and radiotherapy also used in diffuse infiltrating pattern to adjacent tissue. [8]

Conclusion

Preoperative diagnosis of Basal cell adenocarcinoma is highly difficult because it resembles Basal cell adenoma and other basaloid tumors, local invasion of surrounding tissues, metastasis and high recurrence rates helps us to delineate from other basaloid tumors. It is necessary to differentiate Basal cell adenocarcinoma from other basaloid cell tumors because of the differences in prognosis and potential differences in treatment.

References