PAROTID GLAND TUMOR AND MALIGNANT MELANOMA

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SUMMARY:
Malignant melanomas are relatively unusual tumors in the parotid gland. The majority of previously reported cases appear to represent metastatic lesions, often from cutaneous head and neck primary melanoma. There were analyzed 5624 medical records from the Oro-Maxillo-Facial Clinic from Timișoara, between years 2007 – 2008. There were noted the total number of patients admitted in hospital, the type and site of tumors. There were found 87 salivary tumors (1.54%), 52 benign tumors and 35 malignant tumors. From the malignant tumors we describe a rare case of a malignant melanoma found in parotid gland and we present the microscopic and immunohistochemical findings in parotid gland of one case. We also present a case with metastasis of a malignant melanoma in parotid gland. Metastatic infiltrations were observed in intraparotid lymph nodes and the characteristic microscopic appearance together with the immunoreactivity of neoplastic cells for and HMB-45 established the final diagnosis. Particular forms of tumors were malignant melanoma and metastasis of malignant melanoma in parotid gland.

Key Words: Malignant melanoma; Parotid gland; Metastasis

TUMORILE GLANDEI PAROTIDIE SI MELANOMUL MALIGN

Rezumat:
Melanoamele maligne sunt relativ rare ca tumori primare de parotidă. Majoritatea cazurilor prezentate anterior au fost leziuni metastatice cu punct de plecare la nivelul pielii capului şi gâtului.

Dintre tumorele maligne se descriu un caz de melanom malign localizat în glanda parotidă și prezentă multiplul histologic și immunoafinitate de acestuia caz. Prezentat în cât un caz de metastază întrarapatidiană de melanom malign. Metastaza a fost observată la nivelul unui ganglion intraparotidian și diagnosticul de certitudine a fost pus pe baza immunoactivității celulelor neoplazice pentru anticorpurul HMB-45. Forme particulare tumorale la nivelul parotidei au fost melanomul malign și metastaza limfonodulară de melanom malign.

INTRODUCTION

Primary melanoma of the parotid gland is an extremely rare event and salivary gland melanomas are nearly always regarded as associated metastases inside and around the gland, lymph node metastasis from a head and neck cutaneous primary melanoma (1). In a series of 250 consecutive parotidectomies examined in one large series, 25% of all tumors discovered in the gland represented metastatic malignant neoplasms, the majority of which were squamous cell carcinoma. In similar studies of

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metastatic lesions of the gland, approximately 80% of
tumors have been either carcinomas or melanomas (2).

For melanoma with palpable lymphadenopathy in the
region of the parotid gland, most investigators advocate a
therapeutic parotidectomy and ipsilateral modified
radical neck dissection, whereas associated with
adjuvant radiotherapy and chemotherapy (3). Prognosis
is generally poor, and only rarely, patients may survive a
long period of time following surgery. Intraoral melanomas are uncommon accounting for 0.5% of oral
malignancies (4).

Despite the anatomic site of the oral melanomas,
prognosis is quite poor with a 15% five-year survival rate.
Metastases spread to regional lymph nodes, lungs, liver,
brain and bones due to satellite formation, angiolympathic invasion and submucosal spread (5).

**MATERIAL AND METHOD**

There were analyzed 5624 medical records of patients
from the Oro-Maxillo-Facial Clinic Timisoara, between
years 2007 – 2008. Were recorded the total number of
patients admitted in hospital, the type and site of salivary
tumors.

**RESULTS**

There were found 87 salivary tumors (1.54%), 52
benign tumors (59.77%) and 35 malign tumors (40.23%).

We describe a rare case of a malignant melanoma
found in parotid gland and we present the microscopic
and immunohistochemical findings for the parotid gland.
We also present a case with metastasis of a malignant
melanoma in parotid gland. Metastatic infiltrations were
observed in intraparotid lymph nodes and the characteristic microscopic appearance together with the
immunoreactivity of neoplastic cells for and HMB-45
established the final diagnosis.

**Case report: I.**

A 68 years old male, admitted in the hospital with local
pain, feeding deficiencies. The diagnosis was left
parotidin tumor. He also suffered of arterial
hypertension, diabetes, cerebral stroke. The patient
reported that the tumor appeared 3 month ago, and it
growths in diameter. Clinical examination revealed a left
parotid nodule approximately 5 cm, tender at pressure,
adherent to the tegument and subjacent planes. The
tegument above the tumor shows no changes. The
patient presented hemi facial paresis. Cervical ganglions
were unmodified. Surgical excision was performed and
the piece was sent to biopsy. Macroscopic examination
revealed a tisular nodular fragment 6.5/4.5/3 cm;
non-homogenous on the surface, yellow-brown colored,
with a cistin central zone with solid content (figure 1).
Histological examination revealed tumoral proliferation
with fibrous capsule formed from malignant melanocytes
with melanic pigment.

Imunohistochemical reaction was intense positive at
HMB-45 inside the tumoral cells citoplasma. Histological
diagnosis was parotidian melanoma.(fig. 1)

**Case report: II.**

A 72 years old female, admitted in hospital for feeding
and aesthetic deficiencies. The diagnosis was right
parotidin tumor. The patient reported that the tumor
appeared several months ago, and it growths in diameter.
Clinical examination revealed a right parotidin nodule
approximately 7 cm, tender at pressure, adherent at the
tegument and subjacent planes. The tegument above the
tumor shows local congestion and moderately tender at
pressure. The patient presented no hemi facial paresis.
Cervical ganglions were unmodified. It was performed
surgical excision and the piece was sent to biopsy.
Macroscopic examination revealed a tisular nodular fragment 7.3/3.8/2.9 cm; with heterogen surface with
brown and black areas, ferme at pressure (figure 2).
Histological examination revealed limfonodule with
intense invaded malign melanoma metastasis.
Immunohistochemical reaction was moderate positive at
HMB-45 inside the tumoral cells citoplasma. Histologic
diagnosis was parotidian limfonodule with malignant
melanoma metastasis.(fig.2)
DISCUSSIONS

Although melanocytes can exist in the intralobular duct of the parotid gland potentially serving as origin for primary melanoma, almost all cases of parotid melanomas appear to represent metastatic lesions, often from cutaneous head and neck primary tumors. Noteworthy, cutaneous melanoma is the second after squamous cell carcinomas of the head and neck region (the most common metastatic tumor of the parotid gland) accounting for approximately 40% of cases (6, 7, 8).

Theoretically, melanomas could arise from the parotid gland. Takeda presented evidence that melanocytes can exist in the intralobular duct of the parotid gland; these melanocytes could potentially serve as cells of origin for primary melanoma of the gland. Although sporadic cases of primary malignant melanomas presumably arising in the parotid gland have been reported, some of these cases may still represent metastatic diseases. In addressing this issue, Woodward and colleagues proposed that 4 conditions should be acquired before rendering a diagnosis of primary parotid malignant melanoma (9). These criteria include the following: the bulk of the tumor should be situated within the parotid gland, the tumor should contain no identifiable lymph node tissue, there should be no evidence of melanoma elsewhere in the body, and there should be no evidence of previous excisions of melanoma or progression of a pigmented lesion. Theoretically, based on these criteria, the melanoma in the first patient would qualify as a primary lesion. However, there are a few other factors that probably should be considered before rendering this diagnosis. A diligent search for a primary cutaneous tumor may not always yield positive results (10).

Metastasis involving intraparotid lymph nodes tends to have a well-demarcated interface between the lymph node capsule and the adjacent salivary gland tissue in contrast to suposed primary melanomas, which tend to be infiltrative, poorly demarcated lesions. Rarely, primary melanomas may regress and may not be subsequently as readily identifiable. Although the majority of metastatic tumors to the parotid gland arise from primary sites in the head and neck region, occasionally metastasis from unusual noncutaneous sites, distant from the head and neck, can give rise to tumor in the parotid. There is a question if the prognosis for the lesions with unknown primary site is better than for the patients who have known origin. In general, most patients with parotid gland involvement by melanoma have a poor clinical prognosis (11, 12).

Malignant melanoma is easily identified microscopically because of its junctional activity, diffuse arrangement of round or spindle cells with abundant eosinophilic cytoplasm, marked cytologic atypia, nuclear grooves, folds and pseudoinclusions, large eosinophilic nucleoli, and abundant mitotic figures, some of them atypical. These findings are accompanied by prominent melanin pigmentation, necrosis and invasion of the surrounding tissue. Immunohistochemistry such as positive staining for vimentin, S-100 protein, HMB-45, MART-1/Melan A, tyrosinase, NKI/C-3 and microphthalmia transcription factor (MiTF) aid the diagnosis. Vimentin is the most consistent but the least useful for the diagnosis. Positivity for S-100 is nonspecific but due to the fact that S-100 is negative in most of the tumors that enter in the differential diagnosis. Also S-100 staining is very important HMB 45 is much more specific marker than S-100 protein. Melan A is positive in approximately 80% of melanomas. The positivity of MiTF is in the range of over 90%.

Certainly, the presence of neuromelanin within a tumor or characteristic cytologic features, including intranuclear invaginations of cytoplasm or prominent nucleolation, can be helpful diagnostic clues when differentiating melanoma from carcinoma (either primary or metastatic). Tumors in which a spindle cell phenotype is predominant may be difficult to distinguish from spindle cell carcinomas or even pleomorphic sarcomas, if neuromelanin pigmentation is not evident. In such cases, immunohistochemistry can be helpful in delineating the lineage of the tumor. Most melanomas stain positively with antibody to S100 protein and do not stain with
cytokeratin markers. Staining with an antibody to HMB-45 may be a useful adjunct in certain cases (13).

In cases of head and neck malignant melanomas attention may be given in salivary glands either have or not any symptoms. Furthermore, any postoperative clinically palpable lymphadenopathy in the region of the parotid or submandibular gland may be associated with a metastasis of malignant melanoma and staining with an antibody to HMB-45 is necessary for the definition of diagnosis.

**CONCLUSION**

The incidence of salivary gland tumors was 1.54% from all oral head and neck tumors. Benign tumors were more frequent than malignant salivary gland tumors. malignant melanoma and metastasis of malignant melanoma in parotid gland were particula forms of tumors.

**REFERENCES**