

# Management Of Primary Malignant Melanoma in The Parotid Gland: A Rare Case Report with Diagnostic Challenge.

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## Abstract:

Malignant melanoma localizations in the parotid gland are uncommon and have a bad prognosis. There isn't a distinct consensus on therapeutic management yet. We stress the importance of thoroughly inspecting the entire skin recovery in front of any parotid tumor to look for any potential primary lesions.

We describe a 30-year-old patient who presented with a right parotid swelling that had been developing for a year, without facial paralysis, as well as some centimeter-sized lymphadenopathy in the sub-digastric area. The patient had no apparent pathological background. Both the cervico-facial examination including the left parotid and a complete dermatological examination were unremarkable.

MRI revealed the presence of a polylobed parotid mass, hypo signal in T1 and hyper signal T2 with a low ADC score. A superficial parotidectomy with lymph node excision was performed on the patient. The analysis of the surgical material suggested a malignant melanoma.

Our case study is about a primary malignant melanoma of the parotid gland (PMMPG) that demonstrates the fatal evolution of this type of tumor, necessitating swift therapeutic treatment that must be the focus of a well-codified consensus.

**Keywords:** Case report, Parotid gland, malignant melanoma, parotid gland malignancies.

## Introduction:

The head and neck area is site to 15–25% of all primary cutaneous melanomas; these melanomas are considered to be more invasive and have worse prognoses than melanomas arising on other sites.[1,2] Less than 0.7% of parotid gland tumors are primary parotid gland malignant melanoma (PGMM), which is extremely uncommon. [3]

As PGMM is difficult to diagnose with a poor prognosis, management of this affection is frequently challenging.

The following case details is a 30-year-old woman's primary malignant melanoma of the parotid gland (PMMPG).

**Patient and observation:**

**Patient Information:** This a 30-year-old patient has a right parotid swelling that has been getting worse over the past year but has no apparent clinical background.

**Clinical Findings:** The cervico-facial examination revealed the presence of a mobile, painless, poly lobed mass in the right parotid region, without skin damage or facial palsy. And a few small infracentimetric adenopathies were palpated in the right subdigastric region; the rest of the clinical examination was unremarkable.

The left cervico-facial examination including the parotid region as well as the complete dermatological examination were unremarkable

**Diagnostic assessment:** Cervical MRI found a polylobed mass at the expense of the right parotid gland, hypo-signal T1 and hyper-signal T2 (figures 1) with a low ADC score suggesting malignancy.

The preoperative work-up came back without particularity, and the patient's informed consent was signed.

**Therapeutic interventions:** The procedure performed was a total parotidectomy preserving the facial nerve with removal of the cervical lymph nodes including areas II and III.

**Diagnosis:** Histological and immunohistochemical analysis of the mass was in favour of a melanoma expressing HMB45 (Human Melanoma Black 45) (figure3). The lymph nodes were free of tumour invasion.

A complete dermatological examination and an ophthalmological examination were normal, allowing the diagnosis of a PMMPG to be retained.

The extension workup included a thoraco-abdomino-pelvic CT scan, which revealed pulmonary micro-nodules with secondary hepatic, adrenal and bone lesions. (Figure2).

**Follow-up and outcome of interventions:** The decision was to place the patient on palliative chemotherapy with IMATINIB and the morphine on demand. The patient died at 5 months after diagnosis.

**Discussion :**

Three groups of lymph nodes (LNs) were created in the parotid gland during embryologic development. These groups include the parotid fascia, parotid parenchyma, and pre-auricular extraglandular soft tissue. [4]

Up to 30 % of cutaneous head and neck melanomas (CHNM), which typically develop from the frontotemporal scalp, face, and ears, drain to parotid LNs. [5]

Rarely, melanoma without a known original location is discovered in the parotid parenchyma or parotid LNs; this could be the product of either a retreated CHNM with parotid metastases or a primary parotid melanoma formed from ectopic melanocytes within the parotid parenchyma.[6,7,8]

PMMPG is possible, and a few theories about it have been covered in the literature. [7]

However, main PMMPG is a diagnostic of exclusion, and in order to diagnose it, these four requirements must be met [9]:

- The majority of the tumor is located within the parotid gland;
- There is no discernible lymph node tissue in the tumor.;
- No signs of another MM lesions in the body.;
- There was no prior removal of MM.

In 2008, Gao et al. described a PMMPG case, and the diagnosis was made using the factors mentioned above [9]. These requirements were satisfied in our patient, who was given a main PGMM diagnosis. The existence of intracellular melanin pigmentation, which is only present in 40–60% of instances, is the gold standard for MM diagnosis. [10]

In the majority of cases, immunohistochemical identifying of MM cells would reveal the presence of S100 and HMB45 proteins [3]. In our case, the diagnosis was supported by HMB45 and Melan-A test results.

Since total parotidectomy is thought to be the optimal treatment option for PGMM, its necessity is questionable given that the tumor has a bad prognosis and the procedure is unlikely to increase life expectancy.

Selective neck dissection, particularly in cases with confined LN without extracapsular extension, may be successful despite the lack of definitive evidence to determine the extent of neck dissection.[4]

A 6% reduction in probability of recurrence is provided by parotid and neck adjuvant postoperative radiotherapy. Furthermore, radiation reduces the impact of microscopic disease .

Despite the finest treatment options, patients with PMMPG have a terrible prognosis. Poorer outlook is caused by cervical lymph node metastasis.

### **Conclusion:**

The majority of cases described in the literature involve invasive lesions, frequently arising from cutaneous head and neck melanomas.

This case report is about a primary malignant melanoma of the parotid gland that demonstrates the fatal development of this type of tumor, necessitating swift therapeutic treatment that must be the focus of a well-codified agreement.

### **Competing interests:**

The authors declare no competing interests.

### **Author's contributions:**

The authors have contributed to the diagnostic and therapeutic management of patient and to the writing of this work. All the authors contributed to the conduct of this work. All authors have read and approved the final version of the manuscript.

### **List of figures:**

Figure 1: cervico-facial MRI in axial section showing the parotid lesion.

Figure 2 : TAP CT in frontal section showing liver metastases.

Figure 3 :

A : salivary gland infiltrated by malignant tumor proliferation

B: Diffuse expression of HMB45 by tumor cells.

**References:**

1. Hoersch B, Leiter U, Garbe C. Is head and neck melanoma a distinct entity? A clinical registry-based comparative study in 5702 patients with melanoma. *Br J Dermatol*,2006; 155:771–777.
2. Lachiewicz AM, Berwick M, Wiggins CL .Survival differences between patients with scalp or neck melanoma and those with melanoma of other sites in the Surveillance, Epidemiology, and End Results (SEER) program. *Arch Dermatol*, 2008; 144:515–521.
3. Bahar M, Anavi Y, Abraham A, et al. Primary malignant melanoma in the parotid gland. *Oral Surg Oral Med Oral Pathol*;1990, 70:627-30.
4. Nuyens M, Schupbach J, Stauffer E et al. Metastatic disease to the parotid gland. *Otolaryngol Head Neck Surg*,2006 ; 135:844–848.
5. O'Brien CJ, Uren RF, Thompson JF et al. Prediction of potential metastatic sites in cutaneous head and neck melanoma using lymphoscintigraphy. *Am J Surg*,1995; 170:461–466.
6. Greene GW Jr, Bernier JL .Primary malignant melanomas of the parotid gland. *Oral Surg Oral Med Oral Pathol*,1961;14:108–116.
7. Takeda Y .Melanocytes in the human parotid gland. *Pathol Int*,1997, 47:581–583.
8. Woodward RT, Shepherd NA, Hensher R .Malignant melanoma of the parotid gland: a case report and literature review. *Br J Oral Maxillofac Surg* ,1993; 31:313–315.
9. Gao N, Li LJ, Li Y, et al. Primary amelanotic malignant melanoma of the parotid gland: a case report. *J Int Med Res* 2008;36:1435-9.
10. Bron LP, Traynor SJ, McNeil EB, et al. Primary and metastatic cancer of the parotid: comparison of clinical,behavior in 232 cases. *Laryngoscope*, 2003 Jun;113(6):1070-5.