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Case Report

Primary Malignant Melanoma of the Parotid Gland: A Rare Case Report

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A B S T R A C T

Primary malignant melanoma of the parotid gland is an exceedingly rare and complex condition, presenting significant diagnostic difficulties. These challenges arise from the absence of melanin within the tumor, which typically characterizes melanoma, as well as its histological resemblance to other poorly differentiated tumors. As a result, distinguishing it from other neoplasms, such as poorly differentiated carcinomas, can be particularly challenging. A precise diagnosis often necessitates the use of advanced imaging modalities, such as MRI and PET scans, to assess the tumor's characteristics and possible spread. Furthermore, immunohistochemical methods are crucial for detecting melanoma-specific markers, such as S100 and HMB-45, which aid in confirming the diagnosis. Given its rarity and potential for metastasis, early detection and accurate diagnosis are critical to determining appropriate treatment strategies and improving patient outcomes. We report a case of a 64-year-old woman who consulted for a left lateral cervical swelling that had been evolving for 2 years, without facial palsy or other associated symptoms. A biopsy revealed a parotid melanoma.

Keywords: Primary malignant melanoma; Parotid gland; Melanin; Immunohistochemical methods; Parotid melanoma

Introduction

Malignant melanomas of the parotid gland are rare entities, presenting both diagnostic and therapeutic challenges. These tumors may occur as either primary or metastatic forms and the origin of primary malignant melanoma can sometimes be difficult to establish or remain unidentified, suggesting the possibility of a primary melanoma of the parotid gland. Furthermore, the presence of melanocytes in the normal parotid gland supports this hypothesis. Although primary malignant melanoma of the parotid is often associated with a poor prognosis due to its aggressive nature and tendency for late detection, early and appropriate management, combined with targeted therapeutic options, can improve survival outcomes. In this context, we report the case of a woman who presented with a left lateral cervical mass, which was ultimately diagnosed as a primary malignant melanoma of the parotid gland.

Case Report

This is a 65-year-old female patient with no notable medical history, who presented to the ENT department for a progressively left lateral cervical swelling over the past two years. Clinical examination revealed an 8 cm left lateral cervical mass, fixed, hard and painless, with inflammatory signs and without facial palsy. The rest of the clinical examination showed no abnormalities **(Figure 1)**.

On the para clinical side, a CT scan showed a lobular, tissue-density mass in the left parotid gland, with heterogeneous enhancement after contrast injection, extended to the ipsilateral submandibular gland. A biopsy of the mass was performed under local anesthesia and anatomopathological examination confirmed a parotid melanoma **(Figure 2)**.

A PET scan revealed an isolated hypermetabolic lesion in the parotid region. The case was subsequently discussed in a multidisciplinary team meeting and the patient was referred for immunotherapy **(Figure 3)**.

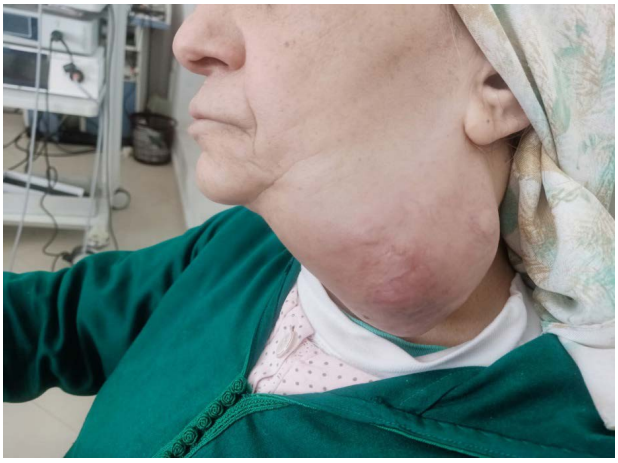

Figure 1: Side view showing the lateral cervical mass.

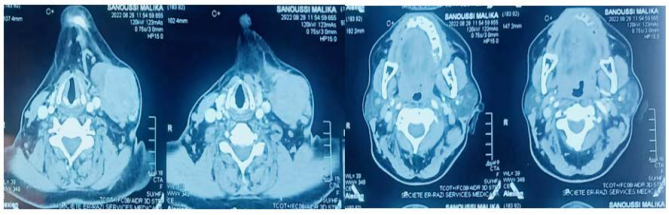

Figure 2: CT scan show a lobular, tissue-density parotid mass the left parotid gland, extended to the ipsilateral submandibular gland.

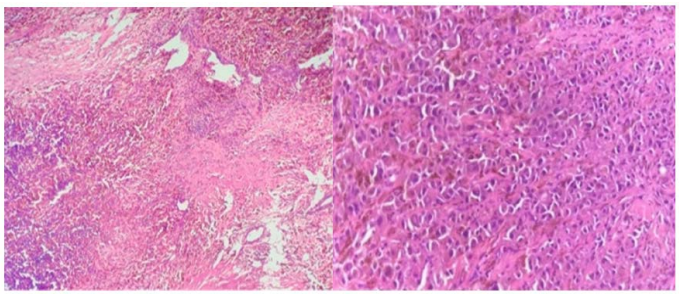

Figure 3: Histological features of malignant melanoma of the parotid gland.
-Magnification x10 (left): Microphotograph revealing a parotid gland infiltrated by a malignant tumor proliferation organized in sheets.
-Magnification x40 (right): Higher magnification view detailing the tumor architecture.

Discussion

Salivary gland tumors are uncommon, representing less than 3% of all head and neck neoplasms. Among these, 80% arise in the parotid gland, with approximately 25% of parotid tumors being malignant[1]. Melanocytes can be found within the intralobular duct of the parotid gland, potentially serving as the origin for primary melanoma[2]. However, the majority of parotid melanomas are metastatic, often originating from primary cutaneous melanomas of the head and neck region[3]. Notably, cutaneous melanoma is the second most common metastatic tumor of the parotid gland, following squamous cell carcinoma and accounts for approximately 40% of cases[4]. While direct invasion of melanoma from adjacent soft tissue or skin into the parotid gland is possible, it is an uncommon occurrence. Instead, metastasis of head and neck melanomas to the parotid gland typically occurs through intralymphatic spread, involving the lymphatic drainage of the parotid lymph nodes[5]. This drainage area includes regions such as the forehead, anterior frontal and temporal regions, eyelids and conjunctiva, lacrimal gland, anterior ear, cranial vault and posterior cheek[6].

Primary malignant melanoma of the parotid gland is extremely rare. In most cases, these tumors are linked to lymph node metastases in or around the gland, often originating from a cutaneous primary in the region[7]. Several researchers question the classification of malignant melanoma as primary in this location. More recently, Lopez-Cedrun and colleagues have suggested that the primary source of the melanoma could be an internal organ, explaining the presence of a parotid melanoma without an identifiable primary tumor[8].

To diagnose primary MM of the parotid gland, the following criteria proposed by Woodward et al. should be met[9]:

1. The tumor mass is located within the parotid gland.
2. The tumor does not contain any identifiable lymph node tissue.
3. There is no evidence of other MM lesions in the body.
4. There is no evidence of previous MM excision or progression of suspicious pigmented lesion.

Typically, this tumor presents as a mass in the parotid region. Clinical signs such as facial paralysis, pain, skin infiltration and lymphadenopathy are often associated with or help in the discovery of the tumor, raising suspicion of its malignant nature. Imaging is crucial in assessing the parotid gland. Ultrasound aids in confirming the intra-parotid location of the lesion and differentiates between cystic and solid masses. MRI offers a more detailed depiction of the lesion, providing better characterization that helps determine whether it is malignant or benign.

A comprehensive evaluation should encompass a detailed skin examination, an eye assessment, a pan endoscopy, abdominal ultrasound or CT scan, a PET scan and CT imaging of the chest and brain. Lopez-Cedrun et al. propose that even with normal results, doubts may persist regarding the primary origin. They hypothesize that the primary site of malignant melanoma may reside in an internal organ that is challenging to investigate[8].

The treatments for primary MM of parotid gland were based on resection of the lesion, such as parotidectomy and, sometimes, radiation therapy, chemotherapy or immunotherapy were added. Total parotidectomy is considered the cornerstone of treatment in most management approaches. However, several key factors, such as the size of the primary tumor, the presence of facial nerve involvement and the surgeon's expertise, play a critical role in determining the extent of surgical resection and, consequently, the prognosis. For example, partial parotidectomy carries a high risk of recurrence in cases where the tumor infiltrates the facial nerve[10]. Given the high prevalence of occult lymph node metastases, performing at least a selective neck dissection is

strongly advised in cases of N0 neck disease[11]. This approach can significantly lower the risk of cervical recurrences[12]. For patients with clinically evident cervical lymph node metastases, a functional neck dissection is recommended, with radical neck dissection reserved for exceptional cases[8].

The role of postoperative treatments, including radiotherapy, chemotherapy and immunotherapy, remains a topic of debate[7,8,13,14]. To date, no studies have provided conclusive evidence supporting the beneficial impact of adjuvant therapy on survival rates or quality of life.

Conclusion

Primary malignant melanoma of the parotid gland remains a clinically complex rarity, requiring thorough diagnostic investigations and tailored therapeutic strategies. Its management relies on a multidisciplinary approach combining surgery, radiotherapy and, in certain cases, systemic treatments such as immunotherapy or targeted therapy. The often-grim prognosis is largely attributed to the difficulty of achieving an early diagnosis, the prevalence of occult metastases and the aggressive nature of this tumor. These factors highlight the critical importance of ongoing research, both to enhance the understanding of the underlying biological mechanisms and to develop innovative and more effective therapeutic options, with the ultimate goal of improving patient survival and quality of life.

References

1. Neville BW, Damm DD, Allen CM, Chi AC. Oral and Maxillofacial Pathology - E-Book: Oral and Maxillofacial Pathology - E-Book. Elsevier Health Sciences 2015:928.
2. Takeda Y. Melanocytes in the human parotid gland. Pathol Int 1997;47(8):581-583.
3. Metastases to Major Salivary Glands - John G. Batsakis, Erna Bautina 1990.
4. Prayson RA, Sebek BA. Parotid Gland Malignant Melanomas. Arch Pathol Lab Med 2000;124(12):1780-1784.
5. Ollila DW, Foshag LJ, Essner R, Stern SL, Morton DL. Parotid Region Lymphatic Mapping and Sentinel Lymphadenectomy for Cutaneous Melanoma. Ann Surg Oncol 1999;6(2):150-154.
6. Storm FK, Eilber FR, Sparks FC, Morion DL. A prospective study of parotid metastases from head and neck cancer. Am J Surg 1977;134(1):115-119.
7. Prayson RA, Sebek BA. Parotid Gland Malignant Melanomas. Arch Pathol Lab Med 2000;124(12):1780-1784.
8. Bussi M, Cardarelli L, Riontino E, Valente G. Primary Malignant Melanoma Arising in the Parotid Gland: Case Report and Literature Review - Mario Bussi, Laura Cardarelli, Elena Riontino, Guido Valente 1999.
9. Woodwards RT, Shepherd NA, Hensher R. Malignant melanoma of the parotid gland: a case report and literature review. Br J Oral Maxillofac Surg 1993;31(5):313-315.
10. Kılıçkaya MM, Aynali G, Ceyhan AM, Çiriş M. Metastatic Malignant Melanoma of Parotid Gland with a Regressed Primary Tumor. Case Rep Otolaryngol 2016;2016:5393404.
11. Balm AJ, Kroon BB, Hilgers FJ, Jonk A, Mooi WJ. Lymph node metastases in the neck and parotid gland from an unknown primary melanoma - BALM - 1994 - Clinical Otolaryngology and Allied Sciences.
12. O'Brien CJ, McNeil EB, McMahon JD, Pathak I, Lauer CS. Incidence of cervical node involvement in metastatic cutaneous malignancy involving the parotid gland. Head Neck 2001;23(9):744-748.
13. Decker P, Hartwein J. Metastasis to the parotid gland: Is a radical surgical approach justified? Am J Otolaryngol 1996;17(2):102-105.
14. Wang BY, Lawson W, Robinson RA, Perez-Ordonez B, Brandwein M. Malignant melanomas of the parotid: comparison of survival for patients with metastases from known vs unknown primary tumor sites. Arch Otolaryngol Head Neck Surg 1999;125(6):635-639.