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CASE REPORT
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A Rare Case of Combined Merkel Cell Cancer and Squamous Cell Carcinoma of the Face in an Older Woman of Southern Italy

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Summary: Merkel cell carcinoma (MCC) is a rare, aggressive neuroendocrine skin tumor, whereas squamous cell carcinoma (SCC) is a more common form of skin cancer. Both tumors share similar risk factors, including advanced age, sun exposure, and fair skin. Cases of synchronous MCC and SCC are rare, and there are no established guidelines for their combined management. We report the case of an 85-year-old White woman from Southern Italy, presenting with a nodular lesion on her right forehead and a flat keratotic lesion on her right zygomatic region. The patient was treated with surgical excision and close postoperative follow-up. Histopathological analysis confirmed 2 distinct tumor populations in the forehead lesion: poorly differentiated neuroendocrine cells, consistent with MCC, and squamous cells with invasive characteristics. The zygomatic lesion contained only squamous cells. Despite surgical intervention and multidisciplinary postoperative care, the patient experienced recurrence within 4 months and died. This case illustrates a rare occurrence of combined MCC and SCC, presenting challenges in diagnosis and treatment. Given the lack of guidelines for managing dual diagnoses, this case highlights the need for further studies to establish standardized treatment protocols. The aggressive nature of these tumors underscores the importance of early detection and ongoing research to improve outcomes.
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Merkel cell carcinoma (MCC) is a rare and highly aggressive neuroendocrine skin tumor.[1–3] Risk factors for this cancer are advanced age, immunosuppression, diagnosis of other cancers, and exposure to ultraviolet light[1]; however, the exact pathophysiological mechanism, leading to carcinogenesis, is still not completely clear.[1] On the other hand, skin squamous cell carcinoma (SCC) is a much more common malignant tumor, characterized by the uncontrolled proliferation of keratinocytes that invades the dermis.[4] Risk factors for the occurrence of squamous cell cancer of the skin are advanced age, white skin, and cumulative exposure to sunlight[4,5]; because these 2 cancers involve the same risk factors, sometimes the 2 lesions can coexist. The real rate of dual diagnosis is not well known. Despite this possibility, not many cases of double diagnosis are described in the literature.[4–7] There is no evidence of any recommendations for the best treatment in the case of synchronous diagnosis of Merkel cell tumor and squamous cell tumor. This work aimed to characterize a rare case of double diagnosis of Merkel and cutaneous squamous cell tumors. Moreover, we present how we treated the patient to stimulate the debate on what could be the best surgical and medical management in these cases.

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CASE

An 85-year-old woman from Southern Italy, with a long history of sun exposure and heavy smoking (10 cigarettes a day), presented to our plastic surgery unit. The woman arrived at our facility with a nodular lesion on the skin of her right forehead, characterized by a large discolored perilesional border, and a second flat keratotic lesion in the right zygomatic region (Fig. 1). She reported a history of prior skin lesions in the head and neck area, as well as having the dyschromic lesion on her forehead for about

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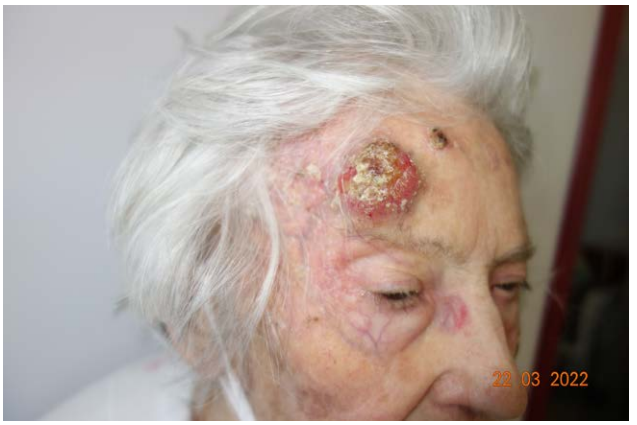

Fig. 1. Preoperative photograph showing the nodular lesion on the right forehead.

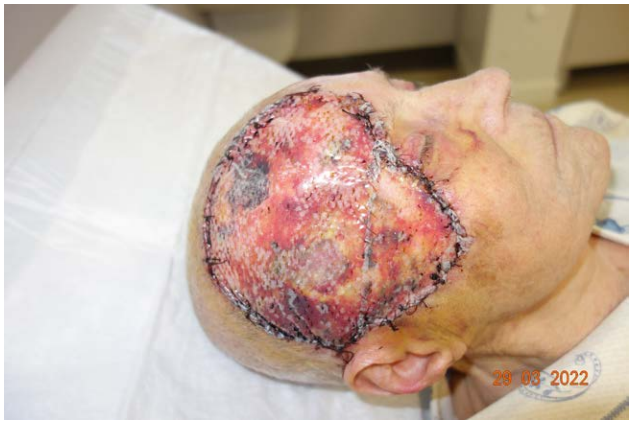

Fig. 2. Postoperative photograph demonstrating the application of Pelnac dermal substitute after surgical excision.

10 years. Two weeks prior, the patient had been seen by her trusted dermatologist, who suspected 2 squamous cell tumors and recommended their removal for diagnostic and therapeutic purposes. At the first outpatient visit, the fronto-temporal-parietal lesion appeared raised, irregularly shaped, keratotic and approximately 10 × 6 cm wide with a nodular component with a diameter of 3.5 cm. The right zygomatic lesion was flat, keratotic, shaped as an oval, and approximately 2 × 4 cm in size. The patient denied previous surgical excisions at these sites, nor was there any clinical evidence of lymphadenopathy. Before any radical surgery, it was decided to first perform 3 incisional biopsies at the periphery of the skin lesion and to wait for the results of the histological examination. The analysis revealed findings of SCC with warty aspects. In accordance with the latest guidelines,[8] both the lesions were removed with a 1-cm margin of healthy periwound skin and then sent for histological examination. In this case, we decided to temporarily cover the skin deficit with a dermal substitute (Pelnac) (Fig. 2). This decision was made to evaluate any subsequent enlargement of the cancer along the margins of the excision after the results of the histological examination. At the microscopic examination of the first lesion, 2 grouped and associated tumor

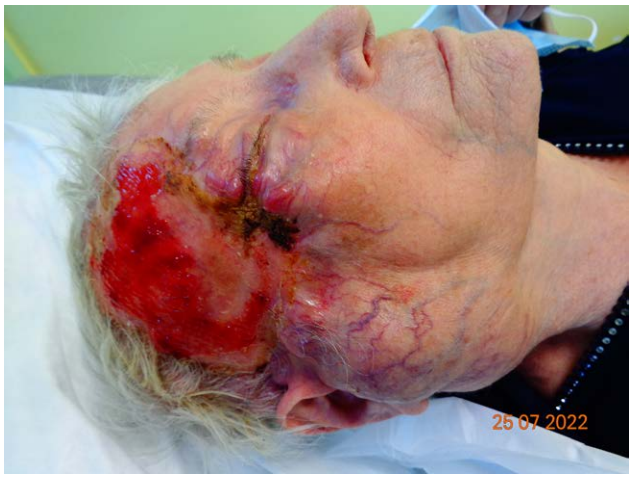

Fig. 3. Recurrence of the lesion four months after the initial surgery.

cell populations were present. The first component was represented by squamous cells mainly "in situ" with areas of reticular dermal infiltration and warty appearance, and another component was consisting of neuroendocrine tumor cells (nodular component of 3.5 cm) poorly differentiated (G3) with Merkel cells. This second component infiltrated the striated muscle tissue included in the sample without reaching the bottom of the excised lesion, showing vascular embolization and perineural infiltration. From immunohistochemical studies, the nodular cell portion of the frontal lesion was also positive for CK20, synaptophysin, and Ki-67 correlated about 80%, confirming the neuroendocrine nature of these cells. On the examination of the second lesion at the zygomatic level, on the other hand, only squamous tumor cells were found, mainly in situ with areas of infiltration in the reticular dermis and warty aspects. Subsequently, the patient was thoroughly discussed in a multidisciplinary meeting with evaluations from the oncologist and dermatologist, who proposed sentinel lymph node biopsy and radiation therapy. However, both the patient and their family declined further surgical interventions and radiation therapy. The plastic surgery team evaluated the patient during postoperative outpatient visits at 1 week, 1 month, 2 months, and 3 months, to assess her condition and the status of the surgical wound. Unfortunately, despite initial treatment efforts, the patient experienced a recurrence of the disease within 4 months postsurgery and subsequently died before she could undergo a positron emission tomography–computed tomography scan (Fig. 3).

DISCUSSION

This report presents a rare case of a dual diagnosis involving MCC and SCC. The presence of both tumors in the patient's forehead may be attributed to shared risk factors, particularly chronic sun exposure, leading to the simultaneous neoplastic transformation of precursor cells in that area. Insights from the systematic review by Ríos-Viñuela et al[8] further inform our understanding of this dual diagnosis, highlighting that such concurrent cases frequently arise from common risk factors such as UV exposure and

immunosuppression, which are relevant to our patient's history. Additionally, the review underscores the importance of individualized treatment approaches and vigilant follow-up, reinforcing our surgical strategy and the need for monitoring for potential metastasis. This connection highlights the complexity of managing dual malignancies and the necessity for a multidisciplinary approach. However, there are no guidelines to support the surgeon in the treatment and follow-up of patients with this kind of cancer diagnosis. About the practice of carrying out the detection of the sentinel lymph node, the scientific literature does not completely agree, but the European guidelines strongly recommended the sentinel lymph node detection in the case of Merkel cell tumor.[9] Nonetheless, if the localization is in the head and neck area, it seems to have a lower sensitivity without modifying the patient's prognosis.[3] In other sites, particularly in cases of dual diagnosis, the potential for metastasis to lymph nodes should not be underestimated, and analyzing the sentinel lymph node could be beneficial in improving patient outcomes. Besides the aggressive nature of the tumor, it is crucial to acknowledge the patient's choice to forgo further treatments, because this decision profoundly impacted the unfortunate outcome of their condition. This choice may have been as critical as the aggressiveness of the tumors, highlighting the need to understand patient perspectives in treatment planning.

CONCLUSIONS

We conclude by saying that future studies are necessary to provide more information on the exact pathogenesis of the MCC/SCC combination and guidelines for a correct therapeutic approach to support the decisions of surgeons in these rare cases.

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DISCLOSURE

The authors have no financial interest to declare in relation to the content of this article.

PATIENT CONSENT

The patient provided written consent for the use of her image.

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