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What is This?
Spontaneous Resolution of Merkel Cell Carcinoma of the Cheek after Incisional Biopsy

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Merkel cell carcinoma (MCC) is an uncommon neuroendocrine cutaneous neoplasm often seen in the head and neck area; it is typically associated with poor prognosis. There have been an estimated 17 cases of spontaneous resolution of head and neck MCC in the literature.1-3 We report a case of a MCC in the left cheek that demonstrated spontaneous resolution after incisional biopsy. Single case reports are exempt from institutional review board approval at our institution.

Case Report

A 93-year old gentleman presented with a painless left cheek mass, which started as a small red nodule and continued to grow during a period of 3 months. There was no facial weakness nor other associated symptoms. A 1×0.8-cm incisional biopsy performed 3 weeks prior to the referral showed findings suggestive of MCC: a characteristic perinuclear dot on CK20 and MNF116 immunostains; focally positive chromogranin; and negative immunostains for TTF1, S100, and NSE.2 Physical examination was significant for a 24×17-mm indurated, erythematous nodular lesion that was located 3 cm below the left lateral canthus. There was also an indurated 5×5-mm satellite lesion located 1 cm inferior to the main tumor that had a similar appearance.3-5 Both masses were mobile over the deep planes of the face. The remainder of the head and neck examination was unremarkable. Computed tomography (CT) and positron emission tomography (PET)/CT were ordered, and those did not show deep tissue invasion or findings suspicious for metastatic disease.

The patient gave consent for wide local excision and reconstruction, although it took several weeks to obtain proper clearance because of underlying comorbidities. During those weeks, the tumor significantly decreased in size from 24×17 mm to 15×11 mm, and the 5×5-mm satellite lesion completely disappeared (Figure 1). The patient and his family members inquired about the possibility of spontaneous resolution prior to proceeding with surgery, and the patient decided to cancel surgery after being made aware of very rare case reports of this phenomenon.

Subsequently, the tumor continued to regress without further intervention, and the patient underwent rigorous follow-up appointments. Complete resolution of the lesion was noted, and PET/CT became negative at the primary site. Since then, the patient has undergone several repeat examinations and imaging studies, all of which are negative for local recurrence.

Figure 1. Patient immediately prior to surgery. Peripheral regression of the tumor has occurred (from 24×17 mm to 15×11 mm), and the 5×5-mm satellite lesion has completely disappeared, despite the lack of photographic evidence.

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persistent disease. At the time of publication, it has been 2 years since the lesion completely disappeared (Figure 2). The patient is still alive, with no new complaints.

**Discussion**

The skin of the head and neck has large concentrations of Merkel cells. That fact supports the finding that approximately 50% of cases of MCC occur in the head and neck—particularly in the perioral and periocular regions. Wide local excision is the usual method of treatment, and the role of adjuvant treatment (chemotherapy and radiation) remains controversial.\(^1\)\(^2\)\(^3\)\(^4\)\(^5\)

Several publications\(^2\)\(^3\) credit O’Rourke with the first reported case of spontaneous resolution of MCC published in 1986. Since then, fewer than 20 cases have been reported in the literature, most of them in the head and neck. We concur with Vesely et al\(^1\) that the reported cases may represent an underestimation of the true potential of MCC to undergo spontaneous resolution, given that most patients typically undergo surgery soon after biopsy, making it difficult to recognize any meaningful spontaneous resolution. Although at this point there is not significant evidence to support changing management of MCC in general, we feel that head and neck surgeons should be aware of this phenomenon. In our case, watchful waiting with careful follow-up saved this elderly patient from what could have been an unnecessary surgery with potential for morbidity.

The process of spontaneous resolution appears to involve a T-cell–mediated immune response as well as apoptosis. However, no concrete mechanism has been agreed upon yet, owing to the small number of reported cases and the lack of common predisposing factors.\(^1\)\(^2\)\(^3\) In the case of our patient, it is reasonable to assume that the biopsy triggered a host immune response, and the resulting changes in the tumor’s microenvironment resulted in complete resolution of the MCC. Further studies of the interaction between MCC and the immune system are needed to further elucidate the mechanism of spontaneous resolution.

**Author Contributions**

Johnathan E. Castañón, data collection, manuscript drafting; Brian S. Jewett, clinical follow-up, manuscript editing; Zoukaa B. Sargi, clinical follow-up, manuscript editing.

**Disclosures**

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