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A Red Nodule on the Cheek - a Case Report

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Abstract

Introduction: Merkel cell carcinoma (MCC) is a rare, very aggressive neuroectodermal tumor of the skin typically located on sun-exposed areas and frequently found in Caucasian men between 70 and 80 years of age. Case Report: We present a case of a 86-year-old woman who was referred to our Skin Cancer Unit with a red and well defined nodule located on her left commissure of the mouth, that grew during a couple of months and was completely asymptomatic. Dermoscopic examination revealed a reddish background with linear and arborizing irregular vessels, some out of focus vessels and whitish areas. The lesion was excised, histological examination showed that the tumor was hypercellular and composed of round epithelial elements with large nuclei and scant cytoplasm suggestive of MCC. Immunohistochemical stains confirmed a diffuse positivity with cytokeratin (CK) 2 chromogranin, and synaptophysin; CK7 and thyroid transcription factor-1 (TTF-1) were negative. Sentinel lymph node biopsy was done, resulting negative for neoplastic cells, and computed tomography (CT) of the chest, abdomen and pelvis showed no distant metastasis. Adjuvant radiotherapy on the tumor site and on homolateral neck lymph nodes was also done. Conclusion: Merkel cell carcinoma presents as an asymptomatic, rapidly growing nonpigmented nodule without specific characteristics. Dermoscopic features may help to distinguish MCC from other similar tumors: linear irregular vessels, milky pink areas, architectural disorders and structureless areas, even if not specific, when present are strongly suggestive of MCC. Wide excision with 2 cm margins with adjuvant radiotherapy is the treatment of choice in high-risk primary tumors, while sentinel lymph node biopsy and computed tomography scans are necessary for early diagnosis of metastatic disease.

Key words: Carcinoma, Merkel Cell; Diagnosis; Skin Neoplasms; Cheek; Facial Neoplasms; Aged, 80 and over; Diagnosis, Differential

Merkel cell carcinoma (MCC) is a rare, very aggressive neuroectodermal tumor of the skin (1) associated with increasing incidence and mortality (2). It is typically located on sun-exposed areas and frequently found in Caucasian men between 70 and 80 years of age. It presents with a high local recurrence rate and regional lymph node metastasis. Dermoscopy is a useful tool for skin cancer diagnosis and it was used to diagnose a solitary red nodule that could clinically be mimicking several tumor entities. Specific dermoscopic diagnostic features are described for Merkel cell carcinoma (3, 4) and a definitive diagnosis is made by histopathologic examination and immunohistochemical staining.

Case Report

An 86-year-old woman was referred to our Skin Cancer Unit presenting with a red and well defined nodule, with a diameter of 2.8 cm, located on her left commissure of the mouth (Figure 1). The lesion grew during a couple of months and it was completely asymptomatic. Dermoscopic examination revealed a reddish background with linear and arborizing irregular vessels, some out of focus vessels and whitish areas (Figure 2). The clinical and dermoscopic differential diagnosis included amelanotic melanoma, squamous cell carcinoma, basal cell carcinoma, cutaneous lymphoma, atypical fibroxanthoma, porocarcinoma, angiosarcoma, hemangioma,

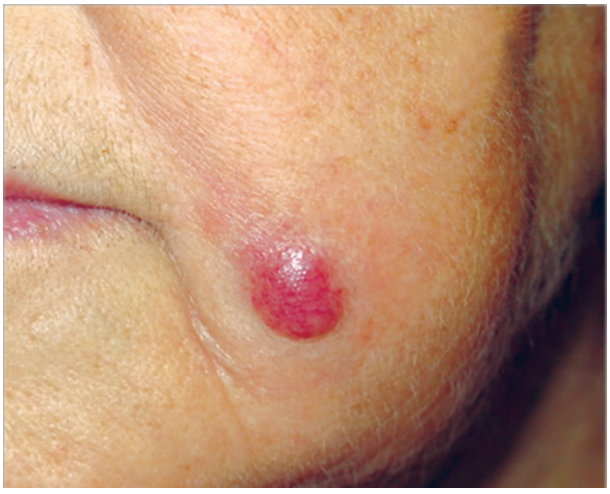

Figure 1. A reddish well defined nodule on left commissure of the mouth

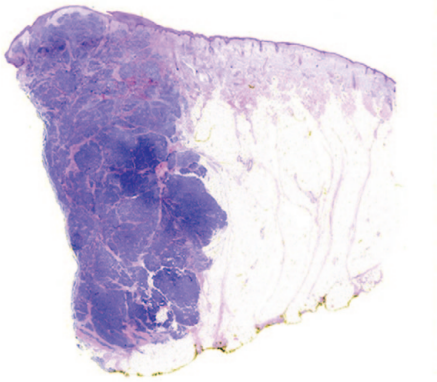

Figure 3. Low histological examination showed a tumor deeply invading the hypodermis with irregular, solid nodules. The epidermis is thinned but apparently uninvolved

Merkel cell carcinoma, and skin metastasis from internal malignancy. The lesion was excised, and gross examination revealed a well-defined grayish nodule. Low histological examination showed a tumor deeply invading the hypodermis with irregular, solid nodules (Figure 3). The epidermis was thinned, but apparently uninvolved. A high power view showed that the tumor was hypercellular and composed of round epithelial elements with large nuclei and scant cytoplasm (Figure 4), suggestive of MCC. Vascular invasion was evident throughout the tumor (Figure 5). Immunohistochemical stains confirmed a diffuse positivity with cytokeratin (CK) 20 and chromogranin (Figure 6) and synaptophysin; CK7 and thyroid transcription factor-*1* (TTF-1) were negative. The tumor infiltrated the dermis, subcutaneous tissue and muscular plane and focally reached the deep margin. Given the aggressiveness of the tumor, a sentinel lymph node biopsy was done, resulting negative for neoplastic cells.

Computed tomography (CT) of the chest, abdomen and pelvis showed no distant metastasis.

The patient was referred to our radiation therapy department. A decision was made to

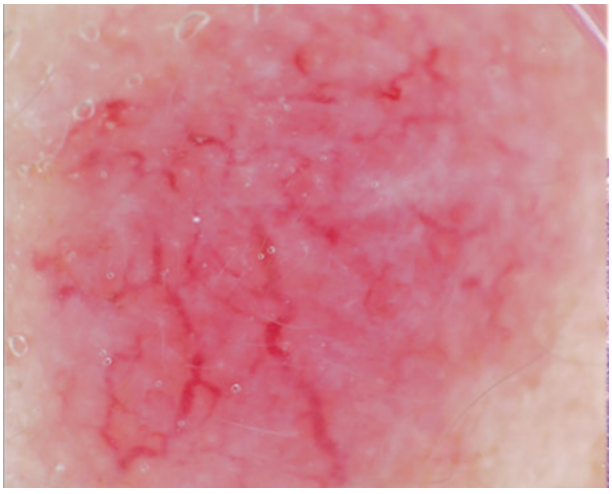

Figure 2. A reddish background with linear and arborizing irregular vessels, some out of focus vessels and whitish areas

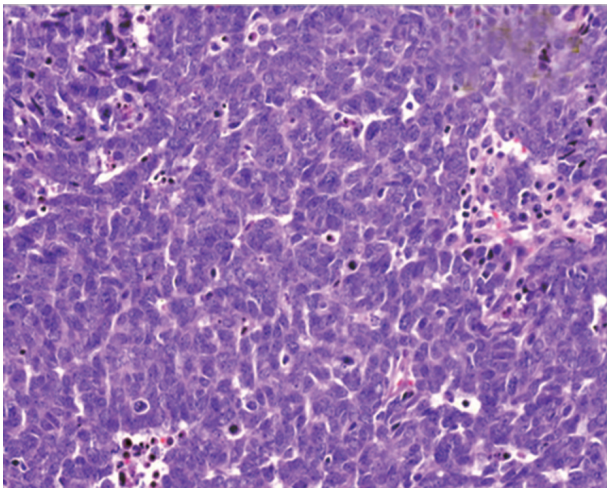

Figure 4. At high power view, the tumor is hypercellular and composed of epithelial elements with large nuclei and scant cytoplasm

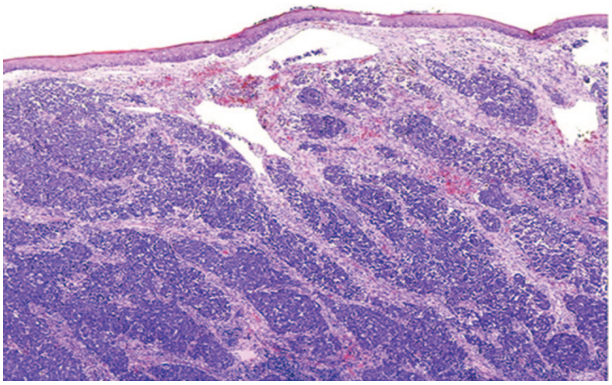

Figure 5. Multiple foci of neoplastic vascular invasion are evident throughout the tumor

Figure 6. Diffusely positive immunohistochemical staining with chromogranin (left) and keratin 20 (right)

perform radiation therapy on the tumor site and on homolateral neck lymph nodes.

Discussion

Merkel cell carcinoma is an uncommon skin cancer with epithelial and endocrine features and a high mortality rate. Well documented risk factors for the development of MCC include ultraviolet exposure, immunosuppression, male sex and older age (5, 6). Recently, a newly discovered Merkel cell polyomavirus has been implicated in the development of MCC (7).

The tumor typically presents as an asymptomatic, rapidly growing nonpigmented nodule without specific characteristics. The predominant sites are the head and neck region and extremities, whereas the trunk, oral, and genital mucosa are involved in less than 10% (8). The MCC is a rarely suspected diagnosis based on clinical examination alone at first clinical visit. Due to its red, pink or purple nodular presentation, the differential diagnosis includes cutaneous lymphoma, atypical fibroxanthoma, porocarcinoma, amelanotic melanoma, angiosarcoma, hemangioma, squamous cell carcinoma, or skin metastasis from internal malignancy.

Dermoscopic features may help to distinguish MCC from other similar tumors (3, 4, 9): linear irregular vessels, milky pink areas, architectural disorders and structureless areas, even if not specific, when present are strongly suggestive of MCC. However, the diagnosis is made by histopathology, while immunohistochemical staining contributes to clarification of the diagnosis. A correct work up comprises ultrasound of the locoregional lymph nodes and total body scanning examinations. The primary tumor should be excised with 2 cm margins. In patients without clinical evidence of regional lymph node involvement, sentinel lymph node biopsy is recommended. If it is positive, a radical lymphadenectomy is recommended. Adjuvant radiotherapy should be considered in patients with multiple affected lymph nodes of extracapsular extension.

Abbreviations

MCC - Merkel cell carcinoma
CK - cytokeratin
TTF-1 - thyroid transcription factor-1
CT - computed tomography

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Crveni nodus na obrazu – prikaz slučaja

Sažetak

Uvod. Karcinom Merkelovih ćelija je redak, veoma agresivan neuroektodermalni tumor kože, koji se najčešće javlja na suncu izloženim regijama, kod osoba bele rase između 70. i 80. godine života. Prikaz slučaja. Žena, starosti 86 godina, upućena je u našu ustanovu zbog eritematoznog nodusa na levoj komisuri usana, koji se pojavio pre nekoliko meseci, bez simptoma. Dermoskopskim pregledom, na eritematoznoj osnovi bili su viđeni linearni i arborizujući iregularni krvni sudovi, neki krvni sudovi van fokusa i beličasta područja. Lezija je ekscidirana, a histopatološkim pregledom viđen je tumor sastavljen od ovalnih epitelnih ćelija sa velikim nukleusima i oskudnom citoplazmom koje su ukazivale na karcinom Merkelovih ćelija. Imunohistohemijskim bojenjem, dokazana je pozitivna reakcija na citokeratin-2, hromogranin i sinaptofizin, dok nije pokazana ekspresija citokeratina-7 i tiroidnog transkripcionog faktora-1. Učinjena je biopsija limfnog čvora stražara, koja je potvrdila odsustvo metastatske bolesti u limfnom čvoru, dok su pregledi kompjuterizovanom tomografijom isključili postojanje udaljenih metastaza. Terapijski, učinjena je široka ekscizija mesta primarnog tumora, a potom i adjuvantna radioterapija kako mesta primarnog tumora, tako i homolateralnog limfnog basena, zbog visokorizičnog tumora radi sprečavanja lokalnog recidiva. Zaključak. Karcinom Merkelovih ćelija najčešće se manifestuje kao asimptomatski, brzorastući nodus bez pigmenta i bez drugih specifičnih karakteristika. Dermoskopija može da doprinese preoperativnoj dijagnostici, a najčešće dermoskopske karakteristike koje su značajno povezane sa dijagnozom karcinoma Merkelovih ćelija su: linerani iregularni krvni sudovi, mlečnoroze područja, narušena arhitektonika i područja bez strukture. Široka ekscizija sa marginama od 2 cm i adjuvantna radioterapija su terapija izbora, a biopsija limfnog čvora stražara i radiološka dijagnostika kompjuterizovanom tomografijom neophodna je za ispitivanje postojanja udaljenih metastaza.

Ključne reči: Karcinom Merkelovih ćelija; Dijagnoza; Kožne neoplazme; Obraz; Facijalne neoplazme; Stari preko 80 godina; Diferencijalna dijagnoza