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Rapidly-growing eyelid mass in an elderly man

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CASE

A 90 year-old Chinese man presented with a rapidly-growing left upper lid lesion. The lesion first appeared two months prior to presentation as a 1 cm red, painless nodule. He denied trauma or changes to his vision. His past medical history was negative for malignancy. He had a history of cataract surgery in the left eye and end-staged bilateral non-neovascular age-related macular degeneration. On exam, his vision was hand-motion OD and 20/200 OS. His intraocular pressures were normal and extraocular motility full. His pupils were equal and reactive to light without an afferent pupillary defect. The external exam revealed a left upper lid exophytic mass with areas of necrosis. The mass extended medially to the punctum, superiorly to the upper eyelid crease and laterally to lateral canthus (Figure 1A). He had appreciable lymphadenopathy of the head and neck. Cranial nerves V and VII were intact bilaterally. Anterior segment exam showed diffuse conjunctival chemosis OS, white and quiet conjunctiva and sclera OD, clear corneas OU, deep and quiet anterior chambers OU, a dense cataract OD, and PC/IOL OS. B scan of the right eye showed no masses or retinal detachment. A dilated fundoscopic exam showed evidence of a chronic left hemiretinal vein occlusion.

An incisional biopsy was performed, and pathologic inspection revealed pleomorphic, basophilic cells with positive cytokeratin-20 and cytoplasmic synaptophysin staining. Magnetic resonance imaging (MRI) (Figure 1B) revealed a 4.3 cm tumor with periorbital soft tissue extension without post-septal involvement and a 1.4 cm mass of the left parotid gland.

DIAGNOSIS

Merkel cell carcinoma

What would you do next?

1. Sentinel lymph node biopsy
2. Full body PET scan
3. Lumbar puncture
4. Fine needle aspiration of the parotid mass

ANSWER

Full body PET scan

DISCUSSION

Merkel cell carcinoma (MCC) is a rare and aggressive cutaneous tumor. MCC has been associated with UV exposure, polyomavirus infection, advanced age, compromised immune status (particularly HIV and chronic lymphocytic leukemia) and female sex.¹ Approximately 10% of the cases involve the eyelid with over 80% eyelid cases involving the upper eyelid.² To date, there have been approximately 97 cases of eyelid Merkel cell carcinoma reported in the literature.² With so few cases, there are no formal guidelines for the treatment of eyelid carcinoma and the recommended therapy can vary between institutions for similar patients.

Tumor staging is important for prognostication. Five year survival for MCC differs dramatically between local, nodal and metastatic disease. In a retrospective review of MCC from all tumor sites, patients with local MCC, lymph node involvement, and distant metastasis had a 2-year survival of 80%, 56%, and 26%, respectively.¹ Given the paucity of cases, it is difficult to compare prognosis for patients with eyelid MCC with other types of MCC. In at least one study of 18 patients with eyelid or periocular MCC, overall survival outcomes were comparable to all-types of MCC with generally a favorable prognosis in patients with only local disease and a very poor prognosis with distant metastasis.³ Unfortunately, nearly 50% of MCC patients present with lymph node involvement or distant metastasis. In one study of 14,000 MCC patients, 51% were found to have local disease, 35% with lymph node involvement and 14% with distant metastasis.¹ Overall, these dramatic differences in prognosis among tumor stages and the significant number of patients who present with locally advanced disease or distant metastasis highlight the importance of full body screening while also helping guide treatment modality

Determining which patients should undergo systemic screening for distant metastasis is not well-established. In 18 patients with eyelid MCC, nodal metastasis was only found at presentation in patients with tumors >20 mm in size.³ However, in a separate study of 18 patients with head and neck MCC, distant metastasis after treatment was not associated with original tumor size.⁴ Despite the conflicting data, it is safe to conclude that any patient with a rapidly growing, mass >20 mm, or evidence of lymph node involvement, should undergo systemic screening for distant metastasis.

MRI alone has low sensitivity for picking up lymph node involvement.⁵ In patients without distant metastasis, sentinel lymph node biopsy has been used to distinguish between local and nodal disease.⁶ Independent of tumor size, patients who had a negative lymph node biopsy had a five year survival of 97% compared to 75% in patients with clinically negative lymph nodes but who did not receive lymph node biopsy.⁷ These results highlight the importance of considering lymph node biopsy in determining prognosis and treatment.

For local and loco-regional disease, treatment for MCC involves wide local excision with 1–2 cm margins per National Comprehensive Cancer Network Guidelines. However, as eyelid tissue is scarce, 5 mm free margins have been advocated.³ Adjuvant radiation may have a

moderate survival benefit for local disease, and improves regional control in nodal disease, though there is conflicting data on survival benefit.⁴

Treatment for patients with distant MCC is palliative as there is currently no effective treatment strategy. In one study of patients with inoperable MCC, radiation therapy alone provided similar results to surgical excision with adjuvant radiation.⁸ MCC is generally chemotherapy sensitive, with the most common regimens including doxorubicin, cisplatin, or cyclophosphamide, but responses are rarely durable, and is thus not recommended in clinical guidelines.⁹ Immunotherapy with pembrolizumab, an anti-PD-1 antibody, may be a promising new therapy for late stages of MCC.¹⁰

PATIENT OUTCOME

The patient underwent a full body PET scan showing no distant metastasis. Given his age and comorbidities, the patient chose a palliative care approach. He received palliative radiation to the left upper eyelid and left parotid lymph node with notable shrinkage of the eyelid mass.

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Figure 1.

A. External photograph of the face showing a $4.3 \times 3.5 \times 3.5$ cm necrotic left upper eyelid lesion. B. Axial T2 magnetic resonance imaging showing large left exophytic eyelid mass with infiltration of the left preseptal orbital tissue.

Figure 2.
High-powered view of the biopsy specimen showing positive cytoplasmic staining with synaptophysin.