

# Outcome of Multidisciplinary Treatment of Merkel Cell Carcinoma of the Lower Extremity

Samuel Broida, Xiao Chen, Brian Wahlig, Steven L Moran<sup>1</sup>, Matthew T Houdek

<sup>1</sup>Mayo Clinic

**INTRODUCTION:** Merkel cell carcinoma (MCC) is a rare and aggressive non-melanoma skin cancer arising from cutaneous neuroendocrine cells with a predilection for sun-exposed regions. MCC has a propensity for local and distant disease recurrence, although multidisciplinary approaches to treatment have demonstrated improved rates of both recurrence and mortality. Currently there is a paucity of data examining the outcome of MCC arising from the lower extremity. The purpose of the present study was to examine the treatment outcomes of patients with MCC of the lower extremity.

**METHODS:** A cohort of 270 patients with MCC evaluated at a single institution was retrospectively reviewed. Of these, 56 (20.7%) patients had MCC in the lower extremity. The group included 22 females (39%) and all patients were Caucasian. Mean age at diagnosis was 72±11 years. All histology was confirmed by fellowship trained dermatopathologists. Primary lesions were located on the thigh (n=17), leg (n=33), ankle (n=6), and foot (n=1). One patient presented with distant metastases at diagnosis. Data was collected on the workup and treatment modalities for each patient along with rate of disease recurrence. Recurrence-free survival and disease-specific survival were evaluated using Kaplan-Meier analysis.

**RESULTS:** Wide local excision (WLE) was performed in 48/56 (85.7%) patients, 1 (1.8%) patient underwent Mohs micrographic surgery, and the remaining 7 (12.5%) patients did not receive surgery beyond excisional biopsy. Forty-six (95.8%) patients received sentinel lymph node biopsy at the time of WLE with evidence of nodal metastases in 19 (41.3%) of cases. Adjuvant radiotherapy was delivered to the primary site in 40/56 (71.4%) patients and additionally to the regional lymph node basin in 25/40 (62.5%) patients. Adjuvant systemic therapy was delivered to 5 patients out of the entire cohort. Recurrence-free survival (RFS) was 67.9% at 1 year, 51.6% at 3 years, and 51.6% at 5 years (Figure 1). There were four instances of local recurrence, all of which occurred in patients who had received wide local excision including two patients who also received adjuvant radiation. Fourteen (25%) patients had regional recurrence, and 19 (33.9%) patients had distant recurrence. Average time to recurrence was 14.3 months (range 3-75 months). Disease-specific survival was 91.0% at 1 year, 86.5% at 3 years, and 80.2% at 5 years (Figure 2).

**DISCUSSION AND CONCLUSION:** Merkel cell carcinoma (MCC) of the lower extremity has a high rate of locoregional and distant recurrence despite multifactorial treatment including margin-negative resection, adjuvant radiotherapy to the primary site and regional nodes, and chemotherapy.

