Prognosis of Patients with Merkel Cell Carcinomas of the Hand and Upper Extremity: An Analysis of Predictors of Outcomes

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Introduction: Although skin cancers are the most common primary malignancy of the hand, Merkel cell carcinomas (MCC) represent an uncommon yet aggressive variant. To date, there is a limited number of reports in the literature and very little is known about predictors of outcomes and survival of patients with MCCs of the hand and upper extremity.1

Methods: We searched the Surveillance, Epidemiology and End Results (SEER) database for all patients with histological confirmation of MCCs (ICD-O-3:8247/3) of the skin (AYA site recode:7.2) of the hand and upper extremity (Primary site:C44.6). The Kaplan-Meier method was used to calculate survival. A Cox logistic regression was used to identify predictors of mortality.

Results: Overall, 1234 cases were identified between 1973 and 2009. Compared to the overall increase in incidence of all Merkel cell tumors (0.17 to 0.60 cases per 100,000), only a small relative increase in the age-adjusted incidence of MCC of the hand and upper extremity (0.02 to 0.14 cases per 100,000) was noted (Figure 1). Median age at diagnosis was 75 years (Range 31 to 105). Most patients were white (95%), male (63%) of Non-Hispanic ethnicity (95%). Tumors were limited to the dermis (61%), extended into the subcutaneous tissue (34.5%) or extended into bone/cartilage/muscle (4.5%). By size, tumors were <2cm (61%), 2-5cm (31%) and >5cm (8%). Positive regional lymph nodes were identified in 33% of patients who underwent lymph node dissection (N=639). Rate of distant metastasis was 4.1%. Overall survival for the study cohort was 51%. Adjuvant radiation was given to 408 (34%) patients and associated with a worse median survival compared to those receiving no adjuvant radiotherapy (N=798) (47 vs. 61 months respectively, p<0.055). Univariate analysis showed a survival advantage for women, patients <65 years of age, Asians, Hispanics, for tumors limited to the dermis, tumors less than 2cm, and for patients with no detectable metastasis at diagnosis. Cox multivariate analysis identified tumor size >5cm (HR=3.36, 95%CI:1.58 – 7.15; P=0.002), positive regional lymph node involvement (HR=2.56, 95%CI:1.61 – 4.05; P<0.0001) and metastasis at diagnosis (HR=2.92, 95%CI:1.14 – 7.43; P=0.024) as independent predictors of mortality.
Conclusions: Overall survival for Merkel cell cancers of the hand and upper extremity are related to tumor size and extent of disease at presentation. The use of adjuvant radiotherapy negatively affects survival.

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