



Sentinel Lymph Node Biopsy in Cutaneous Squamous Cell Carcinoma

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Introduction

Cutaneous Squamous Cell Carcinoma (cSCC) is the second most common skin cancer. Incidence rates have been documented as 71.2 and 155.5 per 100,000 individuals in women and men respectively. In the majority of cases the risk of metastasis is low, overall 5 year rates of metastasis have been documented to be approximately 5%.¹⁻³ However, there are high risk subcategories, based on tumor characteristics and patient comorbidities, with documented metastatic rates approaching 30%.^{1,4} Prognosis is poor in individuals who develop nodal metastases with expected 5 year survival of 26-34% and 10-year survival rate of only 16%.⁵⁻⁶

The use of sentinel lymph node biopsy (SLNB) has been well documented in malignant melanoma and other solid tumors.⁴ Use of SLNB for cSCC remains in its early stages; however studies indicate that it may be useful for high risk cases. Early identification of micrometastasis using SLNB allows for selective, and more aggressive, treatment of high risk patients while preventing the morbidity of unnecessary treatments for node-negative individuals. In this study we review our institution's experience with sentinel lymph node biopsy for cutaneous squamous cell carcinoma.

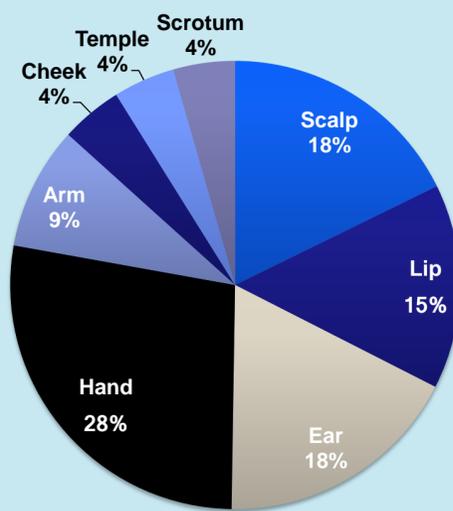
Methods

A query of CoPath, an institutional pathology database, for patients undergoing SLNB from January 1, 2000- January 25, 2017, was performed excluding ICD9/10 diagnoses of melanoma and breast cancer. 2008 pathology reports were identified. After a detailed review, only 22 patients underwent SLNB for cSCC. Patient demographic, clinical, and pathologic data was collected from the patient record on this cohort to identify high risk features amongst this patient population.

Results

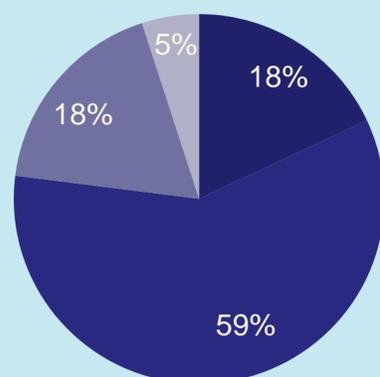
22 of 2008 pathology reports met inclusion criteria. The mean age was 72.8 years (39 - 92 years). The length of follow-up averaged 8 months (1 - 12 months). The majority of patients had ≥ 1 high risk features as defined by AJCC; 4 (18%) had one high risk feature, 12 (59%) had two, 4 (18%) had three, and 1 (4.5%) had four. 16 (72.3%) had other adverse features. 2 of 22 patients (9%) had positive SLNBs. 1 of 22 patients recurred, with that recurrence being local.

Distribution of cSCC



Number of AJCC High Risk Features Present per Patient

■ 1 High Risk Feature ■ 2 High Risk Features
■ 3 High Risk Features ■ 4 High Risk Features



Discussion

The cumulative incidence of metastases from cSCC has been reported to range between 2-6%, with high risk lesions having reported rates of metastasis over 30%.¹⁻⁴ Metastatic foci from cSCC often spread initially to regional nodes first and appear within the first 2 years.⁵⁻⁶ With this in mind, SLNB may play a crucial role in the appropriate patient population with high risk lesions. Patients with advanced locoregionally confined cSCC have been shown to benefit from aggressive surgical intervention and long term survival has been previously documented following radical resection and therapeutic neck dissection. However, the role of elective neck dissection in high-risk cSCC remains undefined. Therefore, although theoretically appealing for staging cSCC with minimal morbidity and identifying early occult nodal disease, the optimal management of clinically N0 patients remains unclear.

Conclusions

Although SLNB for staging & prognosis of melanoma is well defined, its role in high risk cSCC is less clear. Our study shows similar SLN-positive rates for high-risk cSCC compared to the literature. Prospective studies are needed to define standardized criteria for SLNB and delineate the optimal treatment of occult nodal metastasis for high risk cSCC.

References

1. Alam M., and Ratner D.: Cutaneous squamous cell carcinoma. *N Engl J Med* 2001; 344: pp. 975-983
2. Gray D.T., Suman V.J., Su W.P., Clay R.P., Harmsen W.S., and Roenigk R.K.: Trends in the population based incidence of squamous cell carcinoma of the skin first diagnosed between 1984 and 1992. *Arch Dermatol* 1997; 133: pp. 735-750
3. Rudolph R., and Zelac D.: Squamous cell carcinoma of the skin. *Plast Reconstr Surg* 2004; 114: pp. 82-94
4. Berk D.R., Johnson D.L., Uzieblo A., Kiernan M., and Swetter S.M.: Sentinel lymph node biopsy for cutaneous melanoma. *Arch Dermatol* 2005; 141: pp.
5. Reschly M.J., Messina J., Zaulyanov L., Cruse W., and Fenske N.: Utility of sentinel lymphadenectomy in the management of patients with high-risk cutaneous squamous cell carcinoma. *Dermatol Surg* 2003; 29: pp. 135-140 1016-1022
6. Rowe DE, Carroll RJ, Day CL Jr: Prognostic factors for local recurrence, metastasis, and survival rates in squamous cell carcinoma of the skin, ear, and lip. Implications for treatment modality selection. *J Am Acad Dermatol* 1992, 26:976-990.