When Should Parotidectomy and a Neck Dissection Be Performed in Cutaneous SCC of the Head and Neck?

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BACKGROUND

Cutaneous squamous cell carcinoma (cSCC) is the second most common skin cancer. When compared to mucosal SCC, cSCC rarely metastasizes, with reported rates of regional metastasis varying from 0.5 to 10%.

Lymph node metastasis upstages the disease and adversely affects prognosis. Elective treatment of the first echelon of lymph nodes may be a reasonable approach in high-risk patients. However, there is no uniformity or consensus on the effective management of the N zero nodal basin in cSCC.

LITERATURE REVIEW

Thompson et al. conducted a systematic review and meta-analysis of the risk factors for recurrence, metastasis, and disease-specific death in cSCC. Nodal metastasis was the single most consistent poor prognostic factor. Invasion beyond the subcutaneous fat (relative risk [RR], 11.21; 95% confidence interval [CI], 3.59–34.97); Breslow thickness exceeding 6 mm (RR, 6.93; 95% CI, 4.02–11.94); diameter >20 mm (RR, 6.15; 95% CI, 3.56–10.65); poorly differentiated tumors (RR, 4.98; 95% CI, 3.30–7.49); presence of perineural invasion (RR, 2.95; 95% CI, 2.31–3.75); immunosuppression (RR, 1.59; 95% CI, 1.07–2.37); and location on the temple (RR, 2.82; 95% CI, 1.72–4.63), ear (RR, 2.33; 95% CI, 1.67–3.23), and lip (RR, 2.28; 95% CI, 1.54–3.37) were all statistically significant for high risk of nodal metastasis. All factors except perineural invasion (PNI) and thickness can be assessed preoperatively. Thus, the presence of all other risk factors could be an indication to treat the nodal basins in cSCC at the time of initial resection. Given that the first echelon of lymph nodes for most sites affected by cSCC of the face is the parotid, superficial parotidectomy with selective neck dissection should be considered in high-risk cases.

Understanding the patterns of lymph node spread in cSCC is important to determine the extent of management of the nodal basins. Fortunately, the metastatic pattern in cSCC is fairly predictable. Vauterin et al. studied a cohort of 209 patients with cSCC and clinically evident regional metastasis. Primary sites involving the lateral aspect of the head, including the temple, pinna, and cheek, metastasized to the parotid and level II lymph nodes. Levels II, III, IV, and V were involved in 79%, 13%, 28%, and 17%, respectively. Level V was only involved in extensive lymph node disease. However, isolated level V metastases were seen in primary lesions of the posterior scalp. Thus, occipital and level V lymph nodes should be included in the neck dissection for posteriorly based lesions.

In another prospective study of 266 patients, Veness et al. concluded that patients with cSCC of more than 4 to 5 mm in thickness and located in close proximity to the parotid are at high risk for metastasis. There was a significant correlation between increasing tumor thickness and tumor size (Spearman test, r = 0.495). Patients had a median follow-up of 5.3 years. None of the patients with less than 2-mm thick lesions developed metastasis. This is important because accurate tumor thickness may not be available to the surgeon preoperatively.

Sentinel lymph node (SLN) biopsy is the standard of care in some malignancies, such as melanoma. However, its role in cSCC is evolving. Durham et al. studied 53 patients diagnosed with high-risk cSCC of the head and neck retrospectively. The SLN was identified in 50 of 53 (94%) patients. The SLN positivity rate was 15.1%. The adjusted false negative rate was 27.3% (95% CI, 10%–57%), and the adjusted false omission rate was 7.1% (95% CI, 2%–19%). Regional nodal recurrence was observed in five patients following a negative SLNB. However, its current role remains investigational and needs further validation.
BEST PRACTICE

The majority of metastasis with head and neck cSCC occur in the parotid as the first echelon of lymph node metastasis and the neck. Surgical treatment of cSCC should involve excision with wide surgical margins. Parotidectomy (superficial or total) with neck dissection should be considered in all patients with intraparotid and neck nodal metastasis. Elective treatment of the parotid and neck is controversial. The National Comprehensive Cancer Network (NCCN) does not explicitly recommend definite guidelines for elective treatment of regional nodal basins. However, it is prudent to consider superficial parotidectomy with elective neck dissection in high-risk patients. The rates of metastasis are highest among patients with poorly differentiated tumors, PNI, thickness > 6 mm, immunosuppressed patients, recurrent tumors, and those located on high-risk areas such as the temple and ear. SLN biopsy is an exciting approach to the regional management of high-risk cSCC; however, additional prospective studies are needed before it can be recommended as standard of care.

LEVEL OF EVIDENCE

Level 1 for reference 1, level 2 for references 2 and 5, and level 4 for references 3 and 4.

BIBLIOGRAPHY