Commentary on "Superficial Basal Cell Cancers Demonstrate Higher Rates of Mixed Histology on High-Risk Anatomical Sites"

We read with interest Petersen and colleagues's[1] study examining primary superficial basal cell carcinoma (sBCC) cases treated with Mohs micrographic surgery (MMS) for the presence of more aggressive mixed histology (MH). An impetus for their study was to counter assertions that the Mohs surgery appropriate use criteria (MAUC)[2] for sBCC merited reclassification as either "uncertain" or "inappropriate."[1]

They noted that proponents of maintaining the current MAUC offer the counterargument that sBCC containing this mixed histology share the recurrence risk of the more aggressive BCC subtypes noted within. They further stated that there are no previous studies in the literature establishing benchmarks for the incidence of MH in sBCC.[1]

Petersen and colleagues evaluated 247 MMS cases of sBCC and found statistically significantly higher incidences of MH in (1) facial versus trunk and extremities lesions, (2) MAUC Area H versus Area L, and (3) Area M versus area L. They concluded this justifies continuing to score sBCCs as "appropriate" for Mohs surgery in high-risk areas.[1]

Their results confirm those of Pyne and colleagues,[3] who in 2017 evaluated MH in 3150 consecutive sBCC excisions. 48.5% showed sBCC alone, 34.3% showed MH with sBCC + nodular subtypes, and 17.1% sBCC + aggressive subtypes (defined as "infiltrating, morpheic, and micronodular.") 84% of head and neck cases showed MH, whereas 16% showed sBCC alone. Head sites showed a higher incidence of MH versus trunk and limb tumors ($p < .0001$).

Because MH in sBCC likely affects all treatment studies equally, Pyne's and Petersen's studies suggest that MH likely has little bearing on treatment outcomes as the reported cure rates of nonexcisional surgical treatments (NEST) for sBCC are often equal or superior to those of MMS irrespective of the presence of MH.

There is a paucity of studies treating sBCC with NEST and MMS, and there are no studies comparing MMS with alternative treatments. Barlow and colleagues retrospectively evaluated sBCCs treated with curettage alone with a minimum follow-up of 5 years. Fifty-six percent were on the head or neck. The recurrence rate for 68 sBCC with no MH was 1.5% and for 106 sBCC with MH was 2.8%.[4] Lindemalm-Lunstram and Dalenback[5] prospectively evaluated 73 sBCC on the scalp and face treated with curettage and cryotherapy, with a mean follow-up of 42 months. No recurrences were noted. These recurrence rates closely approximate numerous published cure rates for MMS of BCC.

The few studies of MMS for sBCC suggest it requires a higher average number of stages for clearance than for other, more penetrating and aggressive BCC subtypes. MMS for sBCC often leaves larger wound sizes when compared with MMS for other histological types. Mina and colleagues evaluated 158 sBCC of the head and neck treated with MMS of which 124 cases were primary lesions. Average number of stages to clear margins was 2.8 with a range of 2.2 stages on the lateral face to 2.9 stages on the forehead. Postoperative wound sizes were 2.5 to 38.5 fold larger than tumor sizes (except on the scalp and ears). They concluded that "Mohs surgeons need to be familiar with these tumors on the head and neck given their propensity for skip lesions, higher recurrence rates, and significantly larger defect sizes than would be expected clinically.[6] Orengo and colleagues found that 54% of sBCC treated with MMS required 3 or more stages for

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tumor clearance with wide wound extensions found beyond clinical pretreatment margins. They noted that only 18% of nodular BCC and 37% of invasive BCC required 3 or more stages.[7] Cerci and colleagues in 2020 evaluated 295 BCCs for the average number of stages to clear margins. When tumors were categorized into superficial, nodular, and aggressive as per the MAUC criteria, the average surgical margins were 3.1, 2.0, and 2.9 mm, respectively ($p < .001$). The average number of stages to clear margins was 1.8, 1.2, and 1.6, respectively ($p < .001$). The average for all 295 BCC was 1.38 (range 1–8).[8] This increased the number of stages to clearance and larger final defect sizes for MMS of sBCC may relate to many sBCC being discontiguous, multifocal tumors.[6] These studies of MMS for sBCC support the view that sBCC MAUC merit re-evaluation.

Petersen and colleagues incorrectly argue that changing MAUC scoring from "appropriate" to "uncertain" would deny access to MMS for sBCC in "high-risk" locations. MAUC state that treatment for tumors scored as uncertain, "…may be appropriate and acceptable. Uncertainty implies that more research is needed to classify the indication definitively." And, "…uncertain should not equate with grounds for denial of payment."(2) "Uncertain" aptly applies to many current sBCC scenarios scored as "appropriate." Their reclassification to "uncertain" would not deny patients MMS.

We disagree with Petersen and colleagues conclusion that their study, "… provides strong support for the current MAUC scoring."[1] MH is likely not a factor affecting NEST cure rates and current evidence suggests MMS does not offer higher cure rates, requires more stages to clearance than for other types of BCC, and often leaves significantly larger defects. Based on all available evidence, the MAUC for sBCC merit reconsideration.

References

1. Petersen ET, Ahmed SR, Pradhan D, MacFarlane DF. Superficial basal cell cancers demonstrate higher rates of mixed histology on high-risk anatomical sites. Dermatol Surg 2020;46:747–751.
2. Connolly SM, Baker DR, Coldiron BM, Fazio MJ, et al. AAD/ACMS/ASDSA/ASMS 2012 appropriate use criteria for Mohs micrographic surgery: a report of the American academy of dermatology, American college of Mohs surgery, American society for dermatologic surgery association, and the American society for Mohs surgery. J Am Acad Dermatol 2012;67:531–50.
3. Pyne JH, Myint E, Barr EM, Clark SP, et al. Superficial basal cell carcinoma: a comparison of superficial only subtype with superficial combined with other subtypes by age, sex and anatomic site in 3150 cases. J Cutan Pathol 2017;44:677–83.
4. Barlow JO, Zalla MJ, Kyle A, DiCaudo DJ, et al. Treatment of basal cell carcinoma with curettage alone. J Am Acad Dermatol 2006;54:1039–45.
5. Lindemalm-Lundstam B, Dalenbäck J. Prospective follow-up after curettage-cryosurgery for scalp and face skin cancers. Br J Dermatol 2009;161:568–76.
6. Mina MA, Picariello A, Fewkes JL. Superficial basal cell carcinomas of the head and neck. Dermatol Surg 2013;39:1003–8.
7. Orengo IF, Salasche SJ, Fewkes J, Khan J, et al. Correlation of histologic subtypes of primary basal cell carcinoma and number of Mohs stages required to achieve a tumor-free plane. J Am Acad Dermatol 1997;37:395–7.
8. Cerci FB, Kubo EM, Werner B, Tolkachjov SN. Surgical margins required for basal cell carcinomas treated with Mohs micrographic surgery based on tumor features. J Am Acad Dermatol 2020. Epub ahead of publication. https://doi.org/10.1016/j.jaad.2020.04.008.

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