How Mohs surgeons utilize prognostic testing for high-risk cutaneous squamous cell carcinoma (SCC): a clinical impact study
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Synthesis

- Off the 1.8 million annually diagnosed SCC cases, more than 95% are cured by surgery; however, an average of 5% progress to metastasis, with up to 2.1% dying from the disease.
- A SCC patient's likelihood for poor outcomes governs management decisions regarding a multitude of treatment modalities.
- The 40-gene expression profile (40-GEP) test has been validated to stratify primary SCC patients having one or more clinicopathologic risk factors into three biological risk groups (Low = Class 2A, Moderate = Class 2B, High = Class 2C) based on risk for regional, nodal, or distant metastasis (Figure 1).
- Clinical validity studies have shown an improvement to risk stratification of high-risk SCC patients when compared to staging systems.4-6
- When 40-GEP test results are incorporated into a clinician's initial risk assessment, clinical utility studies have demonstrated the ability of the test to personalize patient management plans in a risk-aligned manner.3,4

Objective

- As Mohs surgeons are a clinical specialty likely to see high-risk SCC patients frequently, a clinical impact study was performed to determine how patient management decisions are impacted by their use of the 40-GEP test.

Methods

- An anonymous survey was distributed to current American College of Mohs Surgery (ACMS) members. The study consisted of demographic questions, familiarity with and use of NCCN guidelines, AJCC-8 staging, BWH staging, and the 40-GEP.
- Participants (n=39) were provided with background on the validation of the 40-GEP test, then evaluated the use of risk factors for the assessment of SCC patients within their practice and which were concerning enough to warrant the use of the 40-GEP.
- Participants were presented with a high-risk SCC patient vignette and asked for their risk assessment and treatment approaches pre- and post-40-GEP results.

Results

- Table 2 displays the highest-ranking risk factors (on a scale of 1-5) most likely to cause metastasis as decided on by study participants. Factors that participants rank as most concerning are also the factors they feel would most likely benefit from the prognostic information provided by the 40-GEP.
- Study participants were presented with a high-risk SCC patient vignette (Figure 3). Responses to treatment modalities demonstrated increases in elevation of management when Class results indicated an increased risk of metastasis.
- Overall confidence in decision making increased when integrating 40-GEP test results (Figure 4).

Disclosures

1. JLL, SLK, AFE, AEP are employees and shareholders of Castle Biosciences, Inc.
2. STA is a consultant for Castle Biosciences, Inc.

References

1. Rajegi et al. JAMA Dermatol. 2015
2. Memmelberg et al. Skin Cancer Foundation, 2022
7. Sicherman et al. DERMADO. 2020
8. Aron et al. JAMA Dermatol. 2022

Conclusions

- 97% of Mohs surgeons in this study are familiar with or use the 40-GEP test for high-risk SCC patients.
- Study results determined that clinicopathologic risk factors most likely to cause metastasis are also ones that would prompt usage of the personalized molecular information provided by the 40-GEP.
- Overall, the 40-GEP can focus treatment options in the most risk-appropriate manner, allowing for an optimization of healthcare resources and improved patient outcomes.