BACKGROUND

The metastatic rate for cSCC is low, however the overall incidence is high (~1.25 million cases/year), and deaths from this disease are estimated to surpass those from melanoma.1,2

The National Comprehensive Cancer Network (NCCN) categorizes a patient as high or very high risk for recurrence and/or metastasis by the presence of risk factors, while current tumor staging systems, such as the American Joint Committee on Cancer (AJCC) Cancer Staging Manual, 8th Edition (AJCC8)4 and Brigham and Women’s Hospital (BWH) system,5 help determine recurrence and metastatic risk by translation of high-risk factors into tumor (T) stages. However, these systems often fail to fully classify patient risk resulting in a broad range of downstream management guidelines.

The clinically available 40-gene expression profile (40-GEF) test was developed and independently validated to accurately classify risk for regional or distant metastasis as low (Class 1), moderate (Class 2A), or high (Class 2B) in patients with primary cSCC and one or more high-risk factors.6

RESULTS

OBJECTIVE

To demonstrate independent prognostic value with existing risk assessment methods and report on the early clinical usage of the 40-GEF test.

METHODS

All primary FFPE cSCC samples underwent centralized pathology review and the 40-GEF test in a CAP-accredited, CLIA-certified laboratory.

Clinical Validation: Archival cSCC tissue with verified clinicopathological information and outcomes were assayed under clinical testing conditions by the 40-GEF test (n=420). Kaplan-Meier for metastasis-free survival and Cox regression analysis were performed.

Clinical-usage Summary: Summary metrics on the first 1000 samples received meeting clinical testing criteria, including 40% tumor content and sufficient RNA, were generated. The 40-GEF result and patient risk factors were captured by clinicalquisition form review. Risk factors included lesion located on the H or M area,7 ≥2cm diameter, poorly defined borders, patient immunosuppression, rapidly growing tumor, site of prior RT or chronic inflammation, History & Physical- other factor noted, high-risk subtype, Clark Level IV, ≥2mm invasion, poorly differentiated, LVI, PNI, invasion beyond the subcutaneous fat.

CONCLUSIONS

The 40-GEF test is validated to classify risk for metastasis in cSCC patients with one or more risk factors and provides prognostic information independent from known high risk factors or established staging systems.

This discussion demonstrates the utility of the 40-GEF test as an adjunct to enhance cSCC risk stratification and the intended usage population align with the cases submitted for clinical testing.

Incorporating 40-GEF test results in clinical assessments with traditional clinicopathological risk factors can improve stratification of high-risk cSCC patients and contribute to risk-appropriate surveillance and treatment decisions.

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