Editorial Commentary

Implementation of staging systems in clinical practice for cutaneous squamous cell carcinoma

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Staging systems have been poorly implemented in clinical practice in cutaneous squamous cell carcinoma (CSCC) mainly because guidelines have been essentially based on risk factors rather than in T stage itself. However, its extensive use would be desirable in patient's management. Forty years after the publication of the First edition of the American Joint Committee on Cancer (AJCC) Staging System, the Eight edition (AJCC-8) was recently published with relevant changes in skin cancer (1), including CSCC. The AJCC-8 considers T1 a CSCC <2 cm of horizontal size, T2 a tumor ≥2 cm up to 4 cm and T3 a tumor ≥4 cm. Also, the AJCC-8 considers T3 a tumor with a thickness >6 mm, with perineural invasion (of nerves ≥0.1 mm or of nerves deeper than the dermis) and when slight bone erosion exists. A CSCC is classified as T4 if extensive bone invasion exists or when invasion through the foramen of the skull is developed.

The AJCC-8 has been compared with previous staging systems. It showed improvement over the AJCC-7 in terms of homogeneity, monotonicity and distinctiveness (2,3). It has also showed overlap with the Brigham and Women's Hospital's (BWH's) alternative staging system (3), which is also able to stratify CSCCs located out of the head and neck (4). While the AJCC-7 (5) and the BWH's (6) alternative staging system have proven usefulness in immunosuppressed patients, being the later better than the former (6) there was a lack of information in this regard concerning the AJCC-8.

Immunosuppression is a well-known risk factor for CSCC. Particularly, solid organ transplantation (especially heart, followed by lung, kidney and liver) (7), hematologic malignancies (mainly chronic lymphocytic leukemia and lymphoma) (8), immunosuppressants (over all ciclosporin and azathioprine) (9,10) and HIV (11). CSCC is more aggressive in immunosuppressed patients (11-15). Indeed, immunosuppression is one of the clinical features that defines a CSCC as a high risk one (16). Actually, some authors have proposed that this feature should be used to modify the staging of CSCC (17).

Blechman *et al.* evaluated a retrospective cohort of 58 immunosuppressed patients with 263 CSCCs using the AJCC-8 and the BWH's alternative staging system (18). In their cohort of patients, there were 22 organ transplant recipients, 6 patients with HIV and the 32 patients with hematologic malignancies. The majority of tumors were staged as T1/T2 (AJCC-8) and T1/T2a (BWH's) and there were no significant differences between both systems in terms of prognosis stratification. The risk of disease-specific poor outcome events differed among T stages in both evaluated staging systems. On the other hand, the authors observed a small number of poor outcome events, which has also been observed in other series of immunosuppressed patients, mainly because of the strict surveillance these patients are managed with (19). The authors concluded that both these staging systems stratify tumors with similar homogeneity, monotonicity and distinctiveness in their cohort of immunosuppressed patients, which confirms the overlap between both systems in immunosuppressed patients too. Both these systems may be used in patients

with immunosuppression to stratify their risk. The implementation of staging systems in clinical practice is of great importance since it will help in comparing outcomes and designing future studies and its extensive implementation will also help in refining these systems in the future.

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Footnote

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References

1. Amin MB, Edge S, Greene F, et al. editors. AJCC Cancer Staging Manual. Eighth Editoin. New York: Springer, 2017.
2. Karia PS, Morgan FC, Califano JA, et al. Comparison of Tumor Classifications for Cutaneous Squamous Cell Carcinoma of the Head and Neck in the 7th vs 8th Edition of the AJCC Cancer Staging Manual. JAMA Dermatol 2018;154:175-81.
3. Canueto J, Burguillo J, Moyano-Bueno D, et al. Comparing the eighth and the seventh editions of the American Joint Committee on Cancer staging system and the Brigham and Women's Hospital alternative staging system for cutaneous squamous cell carcinoma: Implications for clinical practice. J Am Acad Dermatol 2019;80:106-13.e2.
4. Karia PS, Jambusaria-Pahlajani A, Harrington DP, et al. Evaluation of American Joint Committee on Cancer, International Union Against Cancer, and Brigham and Women's Hospital tumor staging for cutaneous squamous cell carcinoma. J Clin Oncol 2014;32:327-34.
5. Metchnikoff C, Mully T, Singer JP, et al. The 7th edition AJCC staging system for cutaneous squamous cell carcinoma accurately predicts risk of recurrence for heart and lung transplant recipients. J Am Acad Dermatol 2012;67:829-35.
6. Gonzalez JL, Cunningham K, Silverman R, et al. Comparison of the American Joint Committee on Cancer Seventh Edition and Brigham and Women's Hospital Cutaneous Squamous Cell Carcinoma Tumor Staging in Immunosuppressed Patients. Dermatol Surg 2017;43:784-91.
7. Veness MJ, Quinn DI, Ong CS, et al. Aggressive cutaneous malignancies following cardiothoracic transplantation: the Australian experience. Cancer 1999;85:1758-64.
8. Mehrany K, Weenig RH, Lee KK, et al. Increased metastasis and mortality from cutaneous squamous cell carcinoma in patients with chronic lymphocytic leukemia. J Am Acad Dermatol 2005;53:1067-71.
9. Price ML, Tidman MJ, Ogg CS, et al. Skin cancer and cyclosporine therapy. N Engl J Med 1985;313:1420.
10. Perrett CM, Walker SL, O'Donovan P, et al. Azathioprine treatment photosensitizes human skin to ultraviolet A radiation. Br J Dermatol 2008;159:198-204.
11. Varra V, Woody NM, Reddy C, et al. Suboptimal Outcomes in Cutaneous Squamous Cell Cancer of the Head and Neck with Nodal Metastases. Anticancer Res 2018;38:5825-30.
12. Veness MJ, Palme CE, Morgan GJ. High-risk cutaneous squamous cell carcinoma of the head and neck: results from 266 treated patients with metastatic lymph node disease. Cancer 2006;106:2389-96.
13. Lanz J, Bouwes Bavinck JN, Westhuis M, et al. Aggressive Squamous Cell Carcinoma in Organ Transplant Recipients. JAMA Dermatol 2019;155:66-71.
14. Stevenson ML, Kim R, Meehan SA, et al. Metastatic Cutaneous Squamous Cell Carcinoma: The Importance of T2 Stratification and Hematologic Malignancy in Prognostication. Dermatol Surg 2016;42:932-5.
15. Hausauer AK, Maurer T, Leslie KS, et al. Recurrence after treatment of cutaneous basal cell and squamous cell carcinomas in patients infected with human immunodeficiency virus. JAMA Dermatol 2013;149:239-41.
16. Oncology NNCCNCPi. Squamous Cell Skin Cancer. NCCN Guidelines2018.
17. Brantsch KD, Meisner C, Schonfisch B, et al. Analysis of risk factors determining prognosis of cutaneous squamous-cell carcinoma: a prospective study. Lancet Oncol 2008;9:713-20.
18. Blechman AB, Carucci JA, Stevenson ML. Stratification of

Poor Outcomes for Cutaneous Squamous Cell Carcinoma in Immunosuppressed Patients Using the American Joint Committee on Cancer Eighth Edition and Brigham and Women's Hospital Staging Systems. Dermatol Surg 2019. [Epub ahead of print].

19. Cheng JY, Li FY, Ko CJ, et al. Cutaneous Squamous Cell Carcinomas in Solid Organ Transplant Recipients Compared With Immunocompetent Patients. JAMA Dermatol 2018;154:60-6.

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