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ORIGINAL ARTICLE

Squamous Cell Carcinoma: Clinical and Pathological Features and Associated Risk Factors in an Observational Study of 118 Patients☆

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KEYWORDS
High-risk squamous cell carcinoma;
Risk factors;
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Abstract

Background and objective: In the latest edition of its cancer staging manual, the American Joint Committee on Cancer (AJCC) revised the criteria for staging squamous cell carcinoma (SCC) by introducing high-risk tumor features to define tumor stage (T) and help to identify tumors with a higher risk of metastasis. The aim of this study was to investigate the characteristics associated with SCC meeting the high-risk criteria defined by the AJCC for T2 lesions.

Patients and method: We performed a case-case observational study in which patients with SCC were included over a period of 18 months. We collected clinical, anthropometric, and tumor data, and analyzed these using PASW Statistics (SPSS) version 18.

Results: One-hundred eighteen patients, the majority of whom were men, were included. Mean age was 77 years. Over 70% of the tumors were located in the head region and a majority of tumors measured 2 cm or less. The prevalence of SCC T2 was 61.9%. The risk factors significantly associated with SCC T2 were an age of over 85 years (odds ratio [OR], 4.48), location in the head and neck region (OR, 3.38), presence of solar elastosis in the peritumoral tissue (OR, 2.08), a higher tumor growth rate (> 1.5 mm · wk^{-1}; OR, 5.73), and higher cumulative exposure to smoking (> 20 pack-years, OR, 3.63).

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Conclusions: Advanced age, location in the head and neck region, presence of solar elastosis, high tumor growth rate, and high cumulative smoking exposure were all significantly associated with the presence of SCC T2.

PALABRAS CLAVE
Carcinoma epidermoide cutáneo de alto riesgo;
Factores de riesgo;
Anciano;
Tabaco

Carcinoma epidermoide cutáneo: definición de sus características clínico-patológicas y factores de riesgo asociados en un estudio observacional de 118 pacientes

Resumen

Introducción y objetivo: En la última edición del manual de la *American Joint Committee on Cancer* (AJCC) se modificó la estadificación para el carcinoma epidermoide cutáneo (CEC), introduciendo características tumorales de alto riesgo que definen el estadio tumoral (T), con el propósito de identificar aquellos tumores con mayor riesgo de metástasis. Nuestro objetivo fue definir las características asociadas al CEC que cumplía criterios de alto riesgo definidos por la AJCC para ser estadio T2.

Pacientes y método: Estudio observacional analítico tipo casos-casos de 18 meses donde se han incluido pacientes con diagnóstico de CEC. Se recogieron datos clínicos, antropométricos y tumorales. Para el análisis estadístico se ha utilizado la versión 18.0 del programa PASW Statistics (SPSS).

Resultados: El número total de pacientes incluidos fue 118. La edad media de la población fue de 77 años, con predominio del sexo masculino. Más del 70% de los CEC se presentaron en la región cefálica, y la mayoría fue $\leq$ 2 cm. La prevalencia de CEC T2 fue del 61,9%. Los factores de riesgo estadísticamente significativos asociados al CEC estadio T2 fueron: la edad (> 85 años, OR: 4,48), la localización en la cabeza y el cuello (OR 3,38), la presencia de elastosis solar en el tejido peritumoral (OR 2,08), la tasa de crecimiento más elevada (> 1,5 mm*sem-1, OR: 5,73) y el grupo de mayor exposición tabáquica (> 20 años/paquete; OR: 3,63).

Conclusiones: La edad avanzada, la localización en la cabeza y el cuello, la presencia de elastosis solar, la velocidad de crecimiento más elevada y la exposición tabáquica intensa son los factores de riesgo que se asociaron a la presencia de CEC estadio T2.

Introduction

In light-skinned populations, nonmelanoma skin tumors comprise the most prevalent type of cancer and their incidence is rising all over the world.[1–4] Rates of squamous cell carcinoma (SCC) in particular have increased markedly in recent decades, by 3% to 10% per year according to some studies.[1–4] In Spain, the incidence of SCC is 72 per 100 000 person-years for females and 100 per 100 000 person-years for males.[5] SCC tumors arise in epidermal keratinocytes. The etiology is multifactorial, but the most important factor is exposure to UV radiation (from sunlight, psoralen-UV-A therapy, or tanning booths).[6] Other relevant factors that favor the development of SCC are exposure to ionizing radiation[7]; contact with chemicals such as pesticides, tar, polycyclic aromatic hydrocarbons; and exposure to arsenic.[8] Immunocompromised patients also have higher rates of SCC, and their tumors behave more aggressively and have a greater tendency to metastasize than tumors in the general population. Recipients of solid-organ transplants (such as a heart or kidney) are especially at risk. Human papilloma virus infection has been linked to the pathogenesis of SCC; particularly implicated are *Betapapillomavirus* species, which infect nonmucosal cutaneous tissues and are more prevalent in immunocompromised patients.[9–11] Prior history of an inflammatory lesion, dermatitis, long-established wounds or ulcers, or another skin tumor are also considered risk factors for SCC.

The seventh (2010) edition of the staging manual of the American Joint Committee on Cancer (AJCC) introduced important new instructions for SCC staging in the interest of offering more useful prognostic information and therefore providing better guidance on treatment.[12–14] One important change was that SCC was distinguished from the set of other nonmelanoma skin cancers such as basal cell and Merkel cell carcinomas. Under the new system, other important factors in addition to tumor size (> 2 cm) are taken into account. Examples are depth over 2 mm and the extent of deep structure involvement (Clark level $\geq$ 4), location in a high-risk site (ear or lip), or grade (poorly differentiated). If a tumor meets 2 or more of these high-risk criteria it is shifted to a higher T class than would apply based on size alone, and the prognosis would therefore be worse. However, even though prognosis is more accurate under this staging system, other predictors of high risk that are associated with higher rates of recurrence and metastasis are not included; examples are the presence of lymphovascular invasion, immunosuppression, history of a lesion in the same area, and location in high-risk sites other than the ear or lip.[15,16]