

Differentiated precursor lesions and low-grade variants of squamous cell carcinomas are frequent findings in foreskins of patients from a region of high penile cancer incidence

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Aims: About 10–20% of all penile squamous cell carcinomas (SCCs) originate in the foreskin, but knowledge about preputial precursor and associated lesions is scant. The aims of the present study were to determine the prevalence of various precancerous and cancerous lesions exclusively affecting the foreskin, and to describe their pathological features.

Methods and results: One hundred consecutive circumcision specimens from symptomatic patients living in a region of high penile cancer incidence were analysed. Clinical diagnoses included mostly phimosis and chronic balanoposthitis (40 and 35 cases, respectively), but also a tumour mass (11 cases). Histopathological lesions found included: squamous hyperplasia in 61 cases; lichen sclerosus in 53 cases; penile intraepithelial neoplasia (PeIN) in 30 cases (all differentiated PeIN, with two cases showing multicentric foci of basaloid and warty–basaloid PeIN); and invasive SCC in 11

cases (three usual, three pseudohyperplastic, two verrucous–pseudohyperplastic, and one case each of basaloid, papillary and mixed usual–basaloid carcinomas). Lichen sclerosus was present in all low-grade SCC cases. Patients with no lesions were younger (mean age 44 years) than those with precursor lesions (mean age 54 years) or with invasive SCC (mean age 68 years). Immunohistochemistry for p16^{INK4a} was performed in 19 precancerous lesions. All differentiated PeINs (18 lesions) were negative, and one basaloid PeIN was positive.

Conclusions: The frequent coexistence of lichen sclerosus, squamous hyperplasia, differentiated PeIN and low-grade SCC suggests a common non-human papillomavirus related pathogenic pathway for preputial lesions, and highlights the importance of circumcision in symptomatic patients for the prevention of penile cancer.

Keywords: circumcision, foreskin, human papillomavirus, lichen sclerosus, penile cancer, penile intraepithelial neoplasia, squamous cell carcinoma, squamous hyperplasia

Abbreviations: HPV, human papillomavirus; PeIN, penile intraepithelial neoplasia; SCC, squamous cell carcinoma

Introduction

The majority of penile cancers are squamous cell carcinomas (SCCs) originating in the epithelium cover-

ing the glans.^{1–3} A minority of the reported cases originate in the inner foreskin in an exclusive manner. In many patients, owing to the advanced clinical stage at diagnosis, tumours are large, affecting several anatomical compartments, and the precise site of origin cannot be determined. Little is known about precancerous and cancerous lesions affecting the foreskin.⁴

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