Incidental Finding: a Penile Cutaneous Horn

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Sir,

Penile horn is a clinical term that describes protruding hyperkeratoses, conical in shape and usually with a bulging erythematous base. Since the first case described in 1854 there have been 137 cases worldwide with only 30 cases reported within the last 25 years (1). These hyperkeratoses derive from or are superimposed on a wide variety of underlying benign, premalignant, or frankly malignant lesions. Approximately 37% are associated with malignant lesions and some authors state that all these entities should be considered precancerous or tumours of low grade malignancy (2–5). Herein we describe an additional case of cutaneous penile horn and a possible aetiopathogenesis with a review of the literature.

CASE REPORT

A 46-year-old white man had undergone circumcision for severe phimosis. Pathological examination of the foreskin revealed chronic inflammation and marked acanthosis with no cytological atypia.

The first postoperative visit demonstrated excellent results but surprisingly disclosed a previously hidden, horn-like growth over the penis. Physical examination revealed a non-tender, not freely moveable, keratotic, yellowish lesion measuring 1.5 cm in diameter and projecting out from the left dorsolateral aspect of the glans penis (Fig. 1). An indurated erythema extended laterally for 2 mm all around the lesion, sparing the urethral meatus. Upon questioning, the patient had noticed mild discomfort for the past year before the circumcision but had not observed any previous, reddish, whitish or scaly lesion at the site because the unretractable prepuce impaired adequate self-inspection. A physical examination was unremarkable, no lymphadenopathy was present. He was heterosexual and denied a history of extramarital sexual intercourse. As he was initially reluctant to undergo surgical excision of the lesion, an attempt was made to treat it topically with keratolytic agents in order to remove the elevated keratotic mass. Beneath the horn was a whitish, partially macerated plaque, well-demarcated by a surrounding erythematous border. At this time a biopsy was done on the base of the lesion. Histopathological examination showed prominent orthokeratosis, parakeratosis and epithelial hyperplasia. There was disordered maturation of keratinocytes, and various cytological atypies restricted to the middle third of the surface epithelium, featuring moderate epithelial dysplasia or penile intra-epithelial neoplasia grade II. The nuclei were enlarged, pleomorphic and hyperchromatic, with irregular nuclear membranes and occasional normal and abnormal mitotic figures. A brisk inflammatory infiltrate composed of lymphohistiocytes and scattered plasma cells was observed in the lamina propria (Fig. 2).

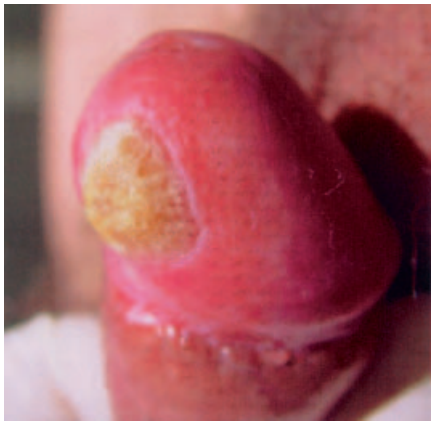

Fig. 1. Clinical appearance of a large cutaneous horn on glans penis.

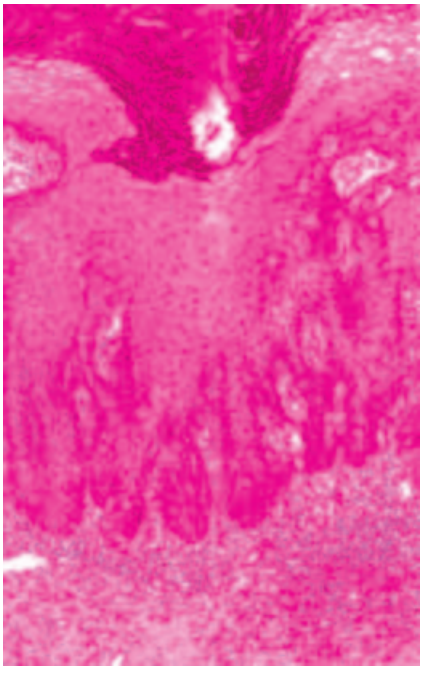

Fig. 2. Biopsy specimen shows disordered epithelial proliferation with cytologic atypia (haematoxylin and eosin, original magnification $\times 100$).

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In situ DNA hybridization was performed for human papillomavirus (HPV) types 6, 11, 16 and 18 with negative results. The lesion was excised with 0.5 cm clinical margins, and a second pathological examination confirmed the previous diagnosis as well as proving the resection margins free of tumour. Six months later the surgical site remained well-healed and free of disease. The patient is still undergoing follow-up.

DISCUSSION

Since the definition of 'penile horn' refers only to a reaction pattern, to an erroneous epithelial growth produced by a wide variety of underlying disorders, it is important to establish an aetiological diagnosis (2–5). As reported by Lowe & McCullogh (2), the condition may be benign in 42–56% of cases, premalignant in 22–37% or frankly malignant in 20–22%. Currently, some authors (5) consider all penile horns to be premalignant lesions sporadically associated with squamous cell carcinoma, or low grade malignancy of the penis, as in our specific case. Among all published cases squamous cell carcinoma has been reported in about one-third (2, 3, 5). Because of the high risk of malignancy, the adequacy of biopsy material and a careful examination are imperative.

In addition to squamous cell carcinoma, other dermatological underlying conditions are common – warts, condyloma acuminatum, angioma, keratoacanthoma, benign hyperplastic epithelium, intraepithelial carcinoma and metastatic prostate carcinoma (6–9). In a few cases, as first emphasized by Bart & Kopf (10), the histological diagnosis of either low grade squamous cell carcinoma or pseudocarcinomatous hyperplasia might be extremely difficult to interpret. That disease, originally considered to be benign and named by Lortat-Jacob & Civatte as pseudoepitheliomatous, keratotic and micaceous balanitis, today falls into the group of low grade malignant neoplasms (11, 12).

The aetiology is not clear but chronic irritation, phimosis, surgical trauma and radiotherapy have been implicated in penile horn formation (1, 2, 13). The major emphasis is on the long-standing phimosis with chronic, prolonged preputial inflammation. It may be acting as an initial event and have a lasting effect on its development, as in our case. Adult circumcision generally precedes horn formation within several months within a range of 2 weeks to a year (2, 6). In our case it is impossible to know the temporal relationship between any former lesion and the development of the penile horn. It was pre-existent to circumcision and not inhibited by the usual macerating effect of moisture under the foreskin.

Various methods including electrosurgical excision, laser and cryosurgery, have been described as effective (1, 4, 14). The lesser degree of scarring with superior cosmetic results makes laser therapy (by carbon dioxide or neodymium:YAG) attractive even if more time-consuming. Although such results are encouraging, we believe that primary laser therapy may be the treatment of choice only in selected cases. Considering the histological features of the lesion, a low grade malignant neoplasm, its size, and the risk of recurrence, we preferred a wide local surgical excision, adequate for a patient under 50 years of age and for functional organ preservation. Like most authors we prefer this modality (1, 4, 13, 15).

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