An Erythematous Patch on Glans Penis

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CASE REPORT

The 76 year-old uncircumcised male noticed an asymptomatic pea-sized erythematous patch on his glans penis 9 months ago. He received some topical medication over the lesion from the local clinics but there was no improvement. The lesion progressed in size gradually. He visited local hospital 2 months ago and an incisional biopsy was performed. The pathological result revealed erythroplasia of Queyrat. Topical imiquimod cream 5% was prescribed. However, pain and erosion occurred after the use of imiquimod. Then he visited our hospital for second opinion. After admission, an ill-defined erythematous plaque, 3 cm in diameter, with a central 0.5 cm ulcer was found to involve the glans penis, corona and sulcus (Fig. 1). Wide excision and advancement flap were performed. Histologically, disorganization of the epithelium, atypical cells, and several individually keratinized cells appeared throughout the full thickness of the epidermis (Fig. 2). No invasion was observed beyond the basement membrane. Mild perivascular lymphocytic infiltrates over the upper dermis were also noted. A survey of HPV DNA in the lesion was carried out using the commercial HPV blot detection kit (Easychip, King Car Food Industrial Co., Ltd. Yuan-Shan Research Institute, Taiwan) and HPV type 16 DNA was detected.

Fig. 1
An ill-defined, 3 cm in diameter, erythematous plaque with a central 0.5 cm ulcer on the glans penis, corona and sulcus.

Fig. 2
Marked acanthosis with complete disorganization of the epidermal architecture, atypical mitoses and dyskeratotic cells. (H&E, original magnification x100)
DIAGNOSIS: Erythroplasia of Queyrat with Human Papillomavirus 16 Infection

DISCUSSION

Erythroplasia is a clinical complex occurring on a mucosal surface and the histologic features were those of Bowen’s disease of the skin. When found on the glans penis, it initially presents as a small, bright red spot which slowly progresses into a sharply defined, red, glistening, and velvety plaque. On progression, these lesions may become confluent, producing few symptoms and are generally considered “pre-cancerous,” ultimately turning into squamous cell carcinoma, and can metastasize to the regional lymph nodes and beyond.

Risk factors for the development of EQ in uncircumcised men included poor hygiene, smegma, heat, friction, and trauma. In lesions of penile EQ, Wieland et al. have identified all of eight patients were infected with the carcinogenic epidermodysplasia verruciformis-associated HPV type 8 (100%). Seven of eight patients were coinfected with oncogenic genital HPV 16 (88%) and four patients were coinfected with oncogenic genital HPV 30 and/or 51. Although the detection rate of HPV 8 was higher than HPV 16, HPV 16 viral load was much higher than HPV 8 viral load. However, HPV 8 was not detected in penile Bowen’s disease lesions. Therefore, in EQ, in contrast to Bowen’s disease, a coinfection with HPV type 8 and 16 may occur. The presence or absence of HPV type 8 might help to distinguish between penile EQ and Bowen’s disease.

EQ must be differentiated from a large number of other anogenital dermatoses. Differential diagnosis of EQ lesions comprises especially of erosive lichen planus, extramammary Paget’s disease and Zoon’s plasma cellular balanitis.

Treatment of EQ can be unsatisfactory due to the recurrent nature of the condition. Therapeutic measures include surgical excision, Mohs surgery, electrosiccation and curettage, laser ablation, cryotherapy, photodynamic therapy, local 5-fluorouracil and imiquimod. Kaspari et al. reported the case of human papillomavirus-16-positive EQ treated with 5% imiquimod cream with a complete clearance of the lesion. At the end of treatment, HPV 16 was no longer detected. In our patient, 5% imiquimod cream was used initially. However, severe irritation with erosion formation was noted over the lesion. The patient can’t tolerate the side effect and he stopped using the cream. A surgical approach is more reliable in terms of clinical and histologic resolution especially in elderly patients. Wide excision with advancement flap was performed for this patient. The post-operation course was smooth and there was no recurrence during the follow-up of one year.

In conclusion, erythroplasia of Queyrat is an uncommon carcinoma in situ of the penile mucosa possibly associated with HPV 16 infection. It has not been previously reported in Taiwan. The early recognition and treatment are important to prevent its progression into an invasive carcinoma.

REFERENCES