Imiquimod Treatment of Classical Kaposi's Sarcoma

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Kaposi's sarcoma (KS) is a multifocal neoplasm of the endothelium. It is typically associated with human herpesvirus 8 (HHV-8). This neoplasm is observed in immunocompromised patient populations and in elderly people from specific geographical areas. KS lesions are nodules or patches that may be red, purple, brown or black, and are usually papular. They are typically found on the skin (lower limbs, face, mouth and genitalia), but may spread elsewhere, especially the mouth, gastrointestinal tract and respiratory tract. The virus can be detected in the neoplastic spindle cells characteristic of KS lesions, and in circulating mononuclear cells (mostly B lymphocytes and monocytes). Four clinical groups of KS have been identified: classical KS in older people of Eastern European or Jewish origin, endemic KS in indigenous Africans, and AIDS-related (or epidemic) and non-AIDS-related KS related to immunosuppression. Rapid, progressive, systemic, or life-threatening KS requires systemic treatments such as bleomycin, vinblastine, liposomal doxorubicin, paclitaxel, docetaxel, or interferon-alpha. For localized lesions several skin-directed therapies have been proposed, notably radiotherapy, cryotherapy, intralesional vinblastine, intralesional interferon and laser ablation (1). We report here a case of localized KS that was treated successfully with the immune response modifier imiquimod.

CASE REPORT

In May 2008, a 77-year-old HIV-negative Caucasian man presented for evaluation of a small papule approximately 0.5 cm diameter on the left fourth toe (Fig. 1a). During the previous 13 years he had developed similar lesions in the plantar region. These lesions had systematically been removed surgically and histological examination was always compatible with KS. The patient had also been investigated for the presence of HHV-8 in both blood and saliva samples, which confirmed the presence of the virus. In order to avoid a further surgical removal of the lesion, the patient was treated with imiquimod 5% cream, under occlusion overnight for at least 8 h, 3 times a week for 3 months. The patient was followed-up carefully during the 3 months of therapy with monthly clinical review. At the end of the treatment period, the lesion had almost completely disappeared with no local or systemic side-effects (Fig. 1b). In the 1 year post-treatment, there has been no evidence of recurrence of the lesion.

DISCUSSION

Imiquimod is an immune response modifier with anti-angiogenic properties (2). It is a member of the imidazoquinoline molecule family and induces a variety of cytokines through its interaction with the toll-like receptor 7, notably interferon (IFN)-α, IFN-γ, tumour necrosis factor-α, and interleukin (IL)-1, -6, -8, and -12 (2). The anti-angiogenic mechanisms are a result of the induction of cytokines (IFNs, IL-10, IL-12), local up-regulation of endogenous angiogenesis inhibitors (TIMP, TSP-1), local down-regulation of proangiogenic factors (bFGF, MMP-9) and promotion of endothelial cell apoptosis.

Imiquimod is currently indicated for treating actinic keratosis, and superficial basal cell carcinoma as well as condyloma acuminatum. It has been shown to be efficacious also in several virus-induced skin conditions, notably human papillomavirus-induced warts and molluscum contagiosum. Although transient inflammatory local reactions may occur after imiquimod application, local residual pigmentation and systemic side-effects are rare.

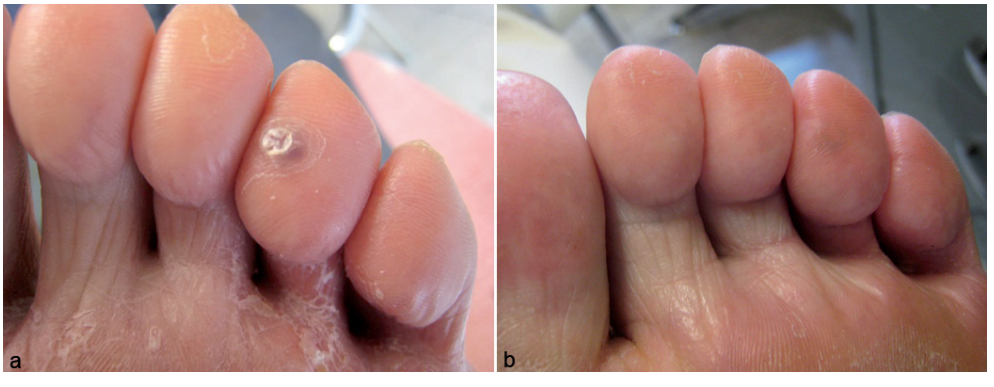

Fig. 1. Kaposi's sarcoma lesion on the left fourth toe: (a) before the treatment; and (b) after treatment with imiquimod 5% cream, under occlusion overnight for at least 8 h, 3 times a week for 3 months.

Our patient showed a prompt response following application of imiquimod. This may be caused by both inhibitors of angiogenesis and cytokines with anti-viral and anti-tumoural effects. These results are consistent with the few previously published articles reporting the successful treatment of KS with imiquimod, and indicate that this approach may represent a valuable alternative to local therapy for this condition (1, 3–5).

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