Recalcitrant hyperkeratotic verrucae in a renal transplant recipient clearing with cessation of immunosuppression

Danit Maor, MBBS,[a] Sarah Brennand, MBBS, BSc, FACD,[a]
Michelle S. Y. Goh, MBBS, BMedSci, FACD,[a,b] and Alvin H. Chong, MBBS, MMed, FACD[a,b,c]
Melbourne, Australia

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INTRODUCTION

Organ transplant recipients are at high risk of cutaneous wart development.[1-3] The presence of viral warts is determined by the type of immunosuppressive therapy, its dosage, and its duration,[1,2] and the incidence varies from 24% to 53%.[3-5] Up to 50% of renal transplant recipients with graft survival greater than 5 years have warts.[3]

CASE REPORT

We describe a case of a 45-year-old female renal transplant recipient, of Indian ethnicity, who had an 8-year history of multiple, hyperkeratotic, proliferative warts on her hands and vulval region. She underwent cadaveric renal transplantation in 2007 after end-stage renal failure of unknown cause. One year after transplantation, cutaneous warts developed. These warts became increasingly severe and hyperkeratotic and were primarily on her hands, digits, vulval, and perianal region (Fig 1, *A* to *C*). She did not have a history of warts before her organ transplantation. The remaining physical examination had normal findings.

The warts were resistant to treatment with cryotherapy and salicylic acid treatment and spread over time becoming progressively more hyperkeratotic. At presentation, her immunosuppressive treatment was 750 mg/d mycophenolate mofetil, 1.5 mg twice daily of tacrolimus, and 5 mg daily of prednisolone. One year before presentation, the patient rejected her transplanted kidney, and her renal function continued to deteriorate with a creatinine level of more than 200 μmol/L.

Abbreviation used:

DCP: diphencyprone therapy

The patient was then treated with combinations of liquid nitrogen cryotherapy, salicylic acid ointment (50%), topical diphencyprone therapy (DCP), cantharidin and podophyllin (Cantharone plus), trichloroacetic acid, and intralesional bleomycin. Despite occasional mild improvement, the warts recurred and persisted. A biopsy of the warts was not taken, as they were classical in appearance, with no symptoms of ulceration or bleeding to suggest verrucous carcinoma or other tumor.

Acitretin was then started at a low dose of 10 mg on alternating days to assist with the hypertrophic nature of the warts. Her nephrologists stopped this treatment shortly after commencement because of deteriorating renal function and development of hypercholesterolemia.

The patient's deteriorating renal function led to her recommencing peritoneal dialysis, and her immunosuppressive medications were reduced to 5 mg/d of oral prednisolone.

One week after the patient's immunosuppressive regimen was significantly reduced, her warts thinned out, became less hyperkeratotic and became fewer in number. Within 4 months, the warts had all completely resolved with only 3 warts remaining on her digits. Six months after reduction of immunosuppression, the warts had completely resolved (Fig 2, *A* and *B*).

From Skin and Cancer Foundation Inc[a]; St Vincent's Hospital[b]; and the Department of Medicine (Dermatology), University of Melbourne.[c]

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Correspondence to: Danit Maor, MBBS, Skin and Cancer Foundation, Level 1/80 Drummond Street Carlton, Melbourne, Victoria, Australia 3053. E-mail: maor.danit@gmail.com.

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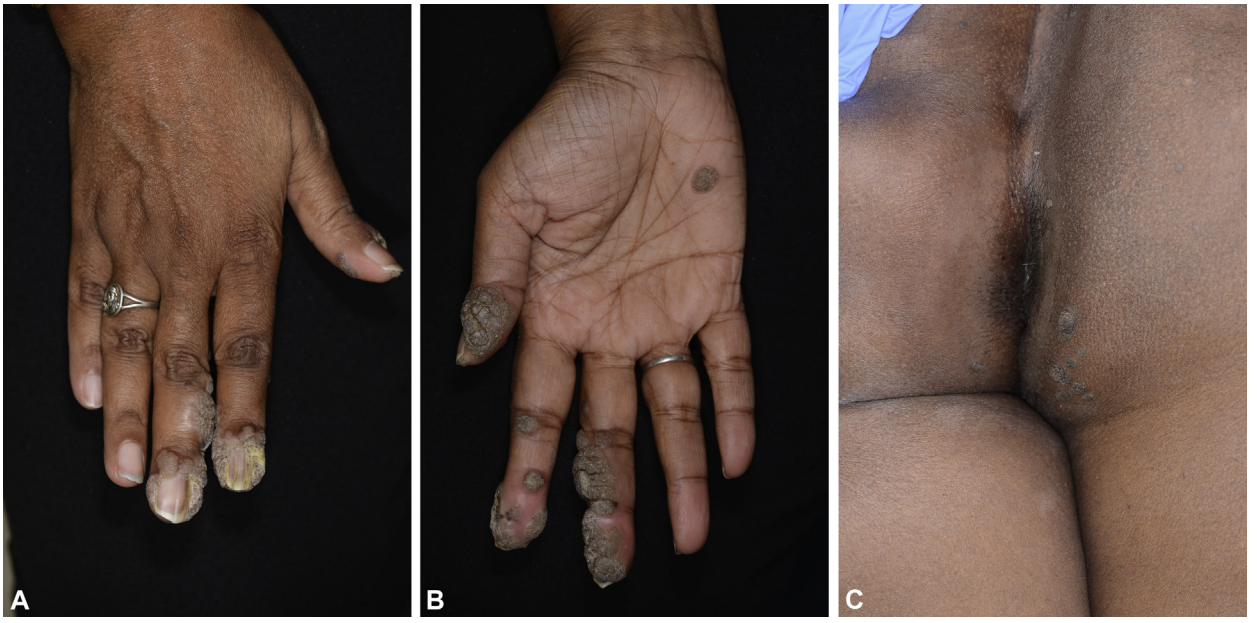

Fig 1. **A** to **C**. Severe cutaneous, hypertrophic warts on hands, digits, and anogenital region at time of presentation.

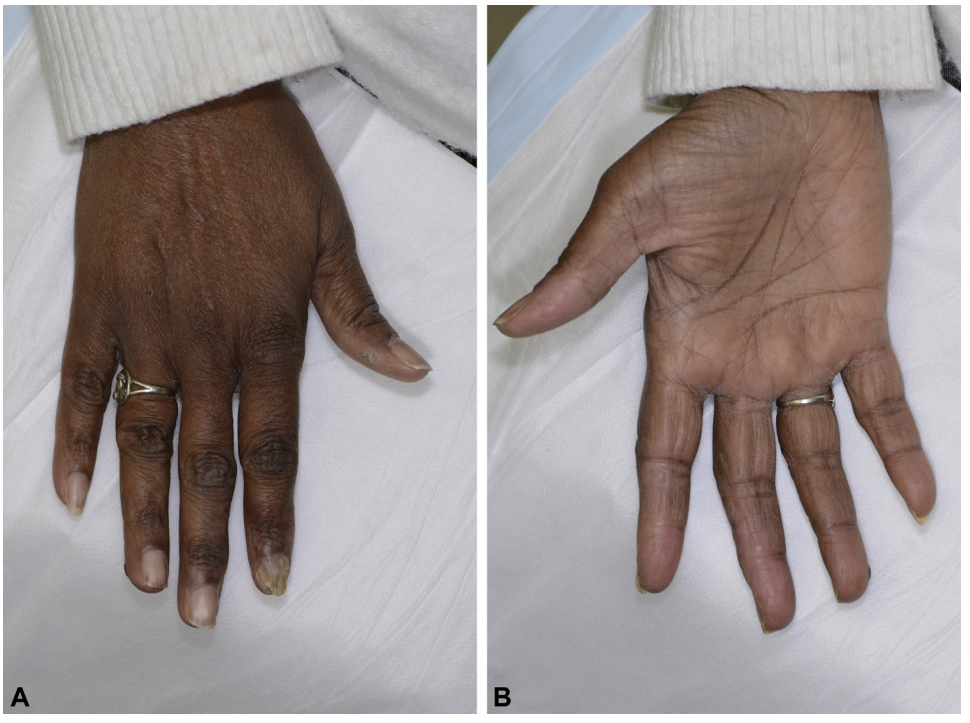

Fig 2. **A** and **B**, Six months after significant reduction of immunosuppression, the warts almost completely resolved.

DISCUSSION

Warts, caused by human papillomavirus, are known to be potential causes of nonmelanoma skin cancer.[1,2] Nonmalignant cutaneous diseases should not be underestimated, as they may result in reduced quality of life and esthetic problems, which may inevitably lead to noncompliance with immunosuppressive medications.

Treatment options for cutaneous warts in a transplant recipient involve the use of multimodal therapies and are often ineffective. These options include the use of physical therapies (cryotherapy,

electrosurgery, laser vaporization) and chemical therapies (salicylic acid, podophyllum, trichloroacetic acid) as well systemic and topical retinoids. Immunomodulatory therapy, which includes contact immunotherapy with DCP[6] and squaric acid dibutylester,[7] is effective for warts in immunocompetent patients. A case series described successful DCP treatment of warts in immunocompromised patients.[8] Although there was a lower clearance in the immunosuppressed patients, requiring more treatments with DCP over a longer period, the improvement was still significant.[8] Cidofovir, a monophosphate nucleotide analog, was also trialed topically in pediatric patients whose cutaneous warts had been recalcitrant to other therapies with lesions completely resolving within 2 to 3 months.[9] Antiretroviral therapy used in HIV-positive patients to treat acquired epidermodysplasia verruciformis lesions has not shown improvement or a decrease in the number of lesions.[7,10]

Reduction or cessation of immunosuppressive therapy remains the most successful treatment in severe, recalcitrant cases of viral infections in organ transplant recipients.[11]

This case highlights the challenge of therapeutic management of warts in patients treated with immunosuppressive drugs. Recurrence or persistence of warts after attempts at treatment is to be expected. In cases of severe and recalcitrant warts, a multidisciplinary approach to the management of the patient is advised, and discussion about altering the immunosuppressive regimen is warranted with the transplant physicians treating the patient.

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