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Palmoplantar pustulosis and IgA nephropathy

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A 32-year-old Japanese man presented with microscopic hematuria. His past medical history included recurrent tonsillitis and sternoclavicular joint arthritis. There was no previous history of renal disease. He was an ex-smoker with a 10 pack-year history, and he denied alcohol use. Upon physical examination, his respiratory rate was 12 breaths per minute, heart rate was 83 beats per minute, blood pressure was 105/72 mm Hg, and body temperature was 36.4°C. Notable examination findings included erythematous, scaly plaques with numerous pustules on the palms and soles (Figure 1). Laboratory findings showed normal kidney function (blood urea nitrogen level, 12.0 mg/dL; serum creatinine level, 0.94 mg/dL), and the urinalysis revealed >100 erythrocytes per high-powered field without proteinuria. Immunological analysis showed that increased immunoglobulins (IgG, 1149 mg/dL; IgA, 412 mg/dL; IgM, 87 mg/dL) and normal complement levels (C3, 117 mg/dL; C4, 34.3 mg/dL; CH50, 51 IU/mL). Renal biopsy showed 20 glomeruli and mild proliferation of mesangial cells without sclerosis or endocapillary proliferation. Immunofluorescence microscopy showed diffuse deposition of IgA. The diagnosis of IgA nephropathy (Oxford classification: M0E0S0T0) and palmoplantar pustulosis was made. The patient was referred to otolaryngology for tonsillectomy.

Palmoplantar pustulosis is a chronic relapsing skin disease characterized by symmetrical multiple pustules with erythematous scaling on the palms and soles. It is typically associated with tonsillitis and IgA nephropathy, and tobacco smoking is a common environmental exacerbating factor.[1] Conventional therapeutic options include retinoids, cyclosporine, and methotrexate, but they lack placebo-controlled studies. A Cochrane review reported that topical corticosteroids, acitretin, and psoralen plus ultraviolet A are proven beneficial interventions.[2] Additionally, tonsillectomy has been known to improve the condition to a major extent, and it has been performed to eradicate the source of inflammation.[1] Tonsillitis activates tonsillar T cells expressing homing receptors to the skin and the kidney and induces immune response in these organs through blood circulation, resulting in palmoplantar pustulosis and IgA nephropathy.[3] Tonsillar B cells are also activated, and they produce large amounts of IgA autoantibody, causing the IgA deposition in the glomeruli.[3] IgA nephropathy should be considered in

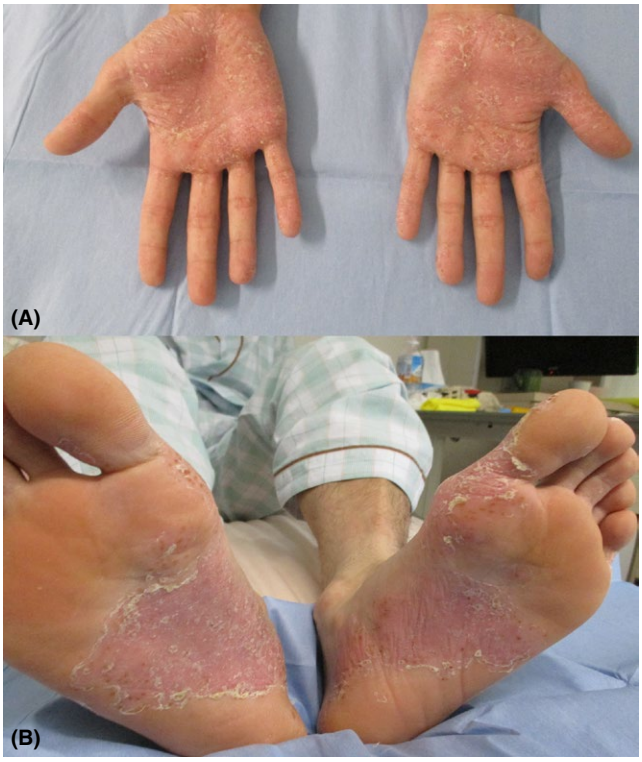

FIGURE 1 Erythematous, scaly plaques with numerous pustules on the palms (A) and the soles (B)

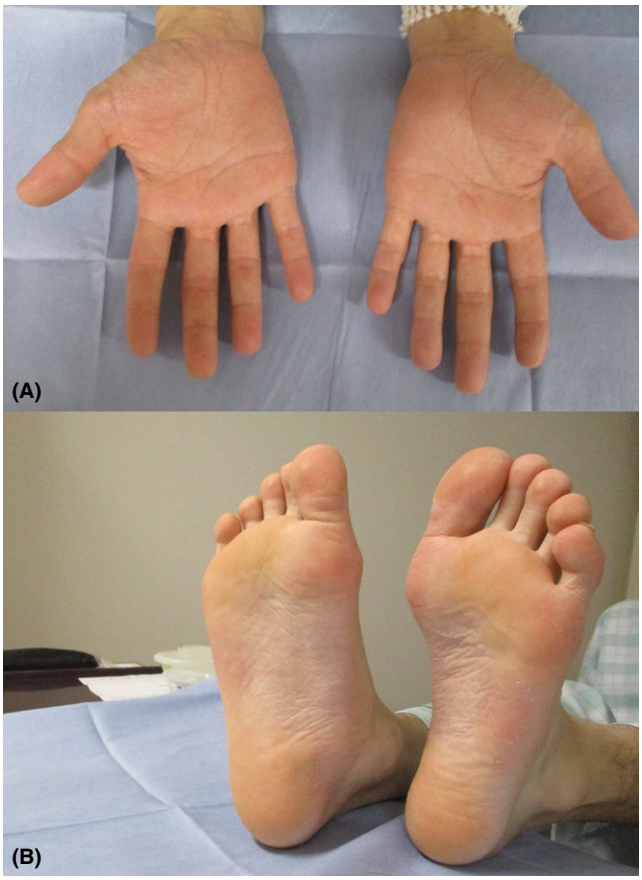

FIGURE 2 Improvement of the palmar (A) and sole (B) plaques and pustules after tonsillectomy

patients with palmoplantar pustulosis. After tonsillectomy, the patient's skin lesion improved (Figure 2) and microscopic hematuria disappeared.

CONFLICT OF INTEREST

The authors have stated explicitly that there are no conflicts of interest in connection with this article.

ETHICAL APPROVAL

All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee at which the studies were conducted (IRB approval number: 2018-007) and with the 1964 Helsinki Declaration and its later amendments or comparable ethical standards.

INFORMED CONSENT

Informed consent was obtained from all individual participants included in the study.

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