

Short Communication

Frictional sweat dermatitis

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In the past few years, we have observed a striking pattern of dermatitis occurring in summer, localized to the skin directly beneath the undergarments.

Case Reports

15 patients (11 men and 4 women, median age: 24 years) were seen with the condition between 1993 and 1995. All patients reported in the months of May and June, the hottest months of the year in our city, when the maximum daytime temperatures range from 35° to 45°C.

The duration of the lesions ranged from 1–20 days. Most patients reported mild burning or stinging. The distribution of the rash was striking (Figs. 1, 2). Lesions occurred under the straps of undergarments, viz. the vest and brassiere, in 9 patients, under the waistband of underpants in 2, under the shirt collar in 2, under a cervical collar worn for neck pain in 1, on the lower back and other areas covered by the vest in 9, and under a roll of flesh in the loin in 1. 2 patients also had lesions on the face and in the antecubital fossae.

The typical lesion was a slightly elevated plaque with a glazed, wrinkled surface and sharp margins corresponding to the edges of the undergarment (Fig. 1). Ery-

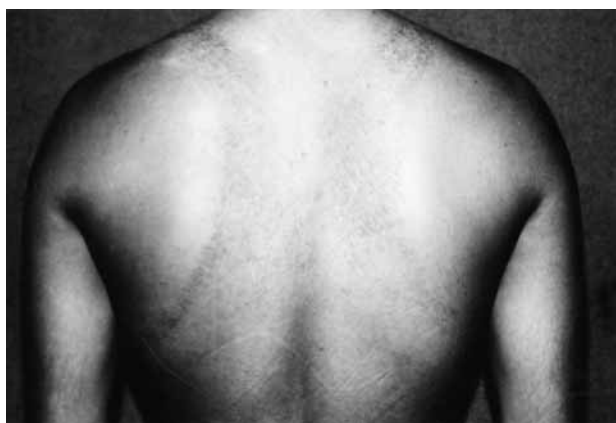


Fig. 1. Dermatitis closely following the outlines of the patient's vest.



Fig. 2. Dermatitis beneath the elastic band of underpants.

thema was mild and obvious only in early lesions. There was usually a network of superficial fissures running across the plaque, with delineated hyperpigmented brown-black scales. The lesions usually scaled off completely in 1–2 weeks with no sequelae.

2 patients had developed the rash in previous summers, for 5 years and 2 years, respectively. 1 patient had developed 1 episode of the rash (lasting 15 days), a month before presenting to us with the 2nd episode. All other patients had developed the rash for the 1st time.

Skin biopsies in 5 patients revealed a mild spongiotic dermatitis.

Discussion

The restriction of the eruption to summer, and the distribution of lesions below undergarments and other apparel in direct contact with the skin, suggests that sweat may play a rôle in the development of the dermatitis.

It has been demonstrated that prolonged contact of the skin with water can produce a dermatitis (1). Eccrine sweat is largely water and a sweat-soaked undergarment may keep the skin wet for several hours before it dries out or is changed. An alternative or additional mechanism by which sweat acts is by leaching out unrinsed detergent from undergarments, which might then produce

the dermatitis. However, all our patients recovered spontaneously in spite of making no changes to the way they washed their clothes, suggesting that detergents are unlikely to be the major cause.

The dermatitis was most prominent under those portions of the clothing that are generally closely apposed to the skin, such as the straps of the vest and brassiere and the elastic band of the underpants. Similarly, the lower back, against which clothing is pressed when seated, was often affected. It is therefore likely that fric-

tion or pressure of tight undergarments also contributes to the process.

No treatment is necessary and patients need only be reassured that the eruption will subside spontaneously and without any sequelae in about 2 weeks.

Reference

1. Willis I. The effects of prolonged water exposure on human skin. *J Invest Dermatol* 1973; 60: 166-171.