Dermatitis papulosa adultorum

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Summary

Dermatitis papulosa juvenilis, also referred to as frictional lichenoid eruption, summertime lichenoid dermatitis of the elbows, Sutton’s summer prurigo, recurrent papular eruption of childhood, and sandbox dermatitis, has been reported previously only in children. We describe three cases of DPJ in adults, which were confirmed by clinical and histology investigations. The term ‘dermatitis papulosa adultorum’ is suggested for this condition in adults.

Dermatitis papulosa juvenilis (DPJ), a dermatosis rarely mentioned in English-language textbooks, appears as lichenoid papules mainly on the elbows and sometimes knees of children, occasionally following contact with an abrasive material. It is also referred to as frictional lichenoid eruption, summertime lichenoid dermatitis of the elbows, Sutton’s summer prurigo, recurrent papular eruption of childhood, and sandbox dermatitis. We report the first three cases, to our knowledge, of DPJ in adults, which were confirmed by clinical and histology investigations.

Report

A 45-year-old Ashkenazi Jewish female nurse of Russian origin, presented in November 2004 with nonpruritic, erythematous, skin-coloured papules on her elbows that disappeared after treatment with an emollient enriched with Dead Sea salt. She had an 8-year history of type II diabetes and no atopy. There was no history of rubbing or contact with any particular material. The lesions recurred in February 2005. Histology of the lesions showed orthokeratosis, papillomatosis and a mild superficial perivascular lymphocytic infiltrate. The lesions were treated with tacrolimus 0.1% cream without improvement. They disappeared 1 week after beginning treatment with betamethasone 0.1% cream, with no recurrence after treatment cessation.

A 32-year-old Ashkenazi Jewish woman, who presented to the emergency department in January 2005 with cytomegalovirus (CMV) infection, a fever of 38 °C and erythematous nonpruritic papules that had appeared on the elbows 2 days earlier (Fig. 1a). She was in the 30th week of pregnancy. There was no history of rubbing or contact with any particular material, and there was no personal or family history of atopy. Investigations gave positive results for CMV IgM and IgG, along with Epstein–Barr virus IgG, toxoplasma IgG and parvovirus B19 IgG and negative for hepatitis B and C viruses. The patient had lymphocytosis (5500/µL; normal range 1200–3000). There were no abnormal findings for blood smear and chemistry. Histology of the papules showed hyperkeratosis, acanthosis, and a perivascular, periadnexal, lymphocytic infiltrate. The lesions disappeared after treatment with fluocortolone 0.25% cream and did not recur after treatment cessation.

A 24-year-old healthy man, first presented in April 2008 with pruritic, lichenoid, skin-coloured papules that had appeared on his elbows 1 week earlier (Fig. 1b) and had not responded to emollients. He also reported morning sneezing. There was no personal or family history of skin diseases and the patient denied any rubbing or contact with any particular material. Histology of the lesions revealed mild spongiosis and a superficial, slightly perivascular, lymphocytic infiltrate (Fig. 2). Periodic-acid–Schiff stain was negative for fungal elements. The lesions responded well to betamethasone 0.1% cream with no recurrence to date.

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DPJ has been described to date only in 2–12-year-old children, with a male : female ratio of 3 : 1. Reports on seasonal appearance, symptoms and course of the disease are not consistent. The season of onset varies from early summer in the midwest USA, to spring in Buffalo, New York, to late summer in Germany, to all year round in Florida, USA. Israel's subtropical climate, characterized by winter temperatures similar to those in the spring or summer of temperate climates, may explain why our cases occurred mainly in our winter.

There is a history of atopy in 15–50% of cases. Reports on seasonal appearance, symptoms and course of the disease are not consistent. The season of onset varies from early summer in the midwest USA, to spring in Buffalo, New York, to late summer in Germany, to all year round in Florida, USA. Israel's subtropical climate, characterized by winter temperatures similar to those in the spring or summer of temperate climates, may explain why our cases occurred mainly in our winter.

There is a history of atopy in 15–50% of cases. There are no systemic findings in DPJ and occasionally there is mild pruritus. It is usually the parent rather than the child who reports the disease.

The hallmark of the disease is lichenoid, flat, coalescing, inflammatory, reddish to skin-coloured papules, 1–2 mm in diameter, mainly on the elbows, sometimes on the knees, back of the hands and fingers and rarely on the cheeks and buttocks. According to Waisman, there are two variants of DPJ. The first is an inflammatory ‘severe’ form, with dull pink, thick papules and sparse, pale and flat peripheral lesions. Our first two cases were of this form. The second variant is milder, with faintly depigmented, superficial pityriasiform or hyperkeratotic lesions, or whitish, pinhead-sized, almost imperceptibly raised spots on a darkened background. Our third case represents this second form.

The histology is nonspecific and is used mainly to exclude other dermatoses. There may be slight hyperkeratosis, acanthosis or spongiosis and a perivascular, peridnexial, lymphocytic infiltrate in the upper dermis that does not reach the dermoepidermal junction, unlike in many other lichenoid dermatoses. CD3-positive staining shows that the lymphocytes are T cells.

Treatment usually consists of mild topical steroids, but some cases are cortisone-resistant or recur after treatment cessation. Other treatment options are salicylic acid, tar, or urea/emollients. The course is mostly self-limiting and the lesions heal within a few weeks. Recurrence is possible and in fact was seen in the majority of the studies children by Waisman et al. and Rasmussen. In contrast, Goldman et al. reported only one child out of seven with recurrence. The lesions may also persist throughout the year.

To our knowledge, our three cases are the first reported of DPJ in adults. We suggest the term ‘dermatitis papulosa adultorum’ (DPA) for the disease in adults, with DPJ remaining the term for the occurrence in children. These names are preferable to those mentioned above because of the frequent absence of pruritus or a history of friction, the occurrence during winter as in our first two cases, the absence of a true lichenoid histological infiltrate and the fact that the lesions do not always recur.

Figure 1 Dermatitis papulosa adultorum on the elbows in (a) a 32-year-old woman and (b) a 24-year-old man.

Figure 2 Lesion from patient 3 showing mild spongiosis and a superficial, slightly perivascular, lymphocytic infiltrate (haematoyxlin and eosin, original magnification × 40).
References
