

Protein Contact Dermatitis to Suet

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PRECÍS

We describe a case of occupational protein contact dermatitis to suet.

DISCUSSION

Protein contact dermatitis (PCD) is an IgE or delayed-type reaction that often remains a nondiagnosed entity. All factors that alter the permeability of the dermal-epidermal barrier such as atopic dermatitis and irritant dermatitis predispose to PCD. Anamnesis

this reason, the term *occupational PCD* was also coined. Barbaud et al¹ identified 31 cases of PCD in the French Dermatology and Allergology Centre between 2006 and 2014; 71% of these patients had an occupational PCD.

A 24-year-old man, working as a supermarket butcher, consulted us for a 1-year chronic dermatitis of the hands and forearms (Figs. 1A, B). He was otherwise healthy, with no history of atopic dermatitis or other skin disorders. The clinical picture led us to consider 2 main diagnostic hypotheses within the eczema spectrum: an irritant dermatitis or a contact dermatitis. Therefore, patch testing with the Società Italiana di Dermatologia Allergologica Professionale e Ambientale baseline series was performed, with negative results, according to International Contact Dermatitis Research Guidelines.² Finn Chambers (SmartPractice, Phoenix, AZ) on Scanpor tape (Norgesplaster, Vennessla, Norway) were used, fixed with Hypafix (BSN Medical GmbH, Hamburg, Germany) on his back. Subsequently, after a careful anamnesis, several foods handled by the



Figure 1. A and B, Chronic dermatitis of the hands with a prevalent involvement of the dorsal region of the second, third, and fourth right fingers. C, Urticarial reaction of the fourth right finger 20 minutes after application of suet in an open patch test. D, Positive patch test reaction to suet at 72 hours.

is often crucial to achieve diagnosis, and the most commonly identified culprits are products used in the household or during some occupational activities such as cooking and handling. For

patient during his work were tested in an “open” patch test on the patient’s hands and a classic patch test on his back. The “open” patch tests that we performed consisted in posing for a short time the fresh foods on the damaged skin with Hypafix. After 20 minutes, the stretches with suet, lettuce, latex, baked ham, and peach were removed, and acute flares appeared exclusively on the damaged skin with suet contact (Fig. 1C). In PCD, the open patch test is usually positive only on damaged skin or after a gentle rubbing with the material,³ so we also applied the open patch tests with the same foods on the healthy skin of the patient’s hands as negative control. The urticarial itchy reaction to suet on the damaged skin lasted for approximately 45 minutes. In addition, the classic patch tests on the

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back resulted positive at 48 and 72 hours only to suet (Fig. 1D). We subsequently performed patch tests with suet on the back of 5 healthy volunteers, all with negative results.

Suet is the raw, hard fat of beef or mutton found around the loins and kidneys. Suet has a melting point between 45°C and 50°C and congelation between 37°C and 40°C. During his work, our patient was handling suet on a daily basis because this fat is ideal for deep frying and pastry production. Suet is similar to the mesenteric fat of pigs reported as a cause of PCD or contact urticaria (CU).³ It is composed of approximately 98% fats and a small amount of proteins (1.5 g per 100 g). However, the composition of the suet used by our patient was unknown.

In the literature, materials associated with PCD are traditionally classified into 4 groups and include fruits, vegetables and plants, grains, enzymes, and animal proteins, as in our patient.¹ High-molecular-weight proteins cause PCD by passing through the skin barrier when it is altered. Successively, type I or IV or a combination of allergic skin reactions begin.³

Cutaneous symptoms of PCD often occur on the hands and sides of the fingers: the lesions are characterized by chronic or recurrent itchy, burning, or painful eczema.⁴ In addition, Kanerva⁵ described a case of chronic paronychia as another sign associated with PCD. The clinical and pathogenetic features of PCD help to distinguish it from CU caused by proteins. In contrast to PCD, skin lesions in CU show a wheal and flare reaction and could also be associated with a multisystem involvement including asthma and anaphylaxis.⁵ Contact urticaria could represent an allergic reaction mediated by an allergen-specific IgE. Alternatively, it may occur after exposure to irritant agents without an immunological mechanism. In this case, it is mediated by an irritant agent, which directly elicits the reaction.^{3,6}

Although prick tests with food are considered the criterion standard for PCD, we decided not to perform a prick test with suet

because of its potential irritant properties.^{1,4,7} In our patient, the open patch tests on the affected skin were a useful alternative to achieve the diagnosis. Moreover, positive classic patch tests demonstrated the involvement of a type IV immunological reaction. In some cases, a combination of type I and IV allergic skin reactions could in fact be involved in PCD. However, the exact pathogenetic mechanism is still unclear.³

Only few reports of PCD have been made, and this dermatosis remains poorly understood and is often misdiagnosed.

ZEBRA

Suet is a common animal protein used by cooks and food counter workers, and specific open patch tests are mandatory and helpful to diagnose this occupational PCD.

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A Diabetic's Allergy: Ethyl Cyanoacrylate in Glucose Sensor Adhesive

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PRECÍS

We present a case of allergic contact dermatitis from ethyl cyanoacrylate in the sensor adhesive used in a continuous glucose monitoring device.

DISCUSSION

A 9-year-old boy with insulin-dependent diabetes mellitus (type 1) had been using a Dexcom G5 Mobile/G4 Platinum Glucose Sensor

(Fig. 1) for continuous glucose monitoring for 6 months without issue before abruptly developing a pruritic rash beneath the device and adhesive. This rash lasted for days to weeks after removal of the sensor. A film dressing barrier (Tegaderm; 3M, St Paul, MN) was unsuccessful in preventing the rash. Topical steroids offered symptomatic improvement but could not prevent rash occurrence (Fig. 2).

The patient was patch tested to the North American Contact Dermatitis Group screening series, supplemental acrylates, and the

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