

approved by the institutional review board, and informed consent for all the diagnostic procedures was obtained from all the participants.

In summary, we report what we believe to be the first case of a patient with a severe allergic reaction after the ingestion of wild heart of palm from the Mediterranean Fan Palm (*Chamaerops humilis*), with evidence of an IgE-mediated mechanism. Notably, the patient tolerated tinned heart of palm, with no *in vivo* or *in vitro* IgE detected to any of the tinned hearts of palm studied, none of which were from the Mediterranean area. The existence of intense pollinosis in our patient suggests that common allergens could exist between pollen and heart of palm, as occurs in 20–40% of patients allergic to pollens (70% in the case of Birch pollen allergy) (3, 4). The Mediterranean Fan Palm is probably an uncommon cause of allergy because it is only consumed in its natural form in a few rural areas of the Mediterranean region, where in some areas it is a protected species.

*Laboratorio de Investigación
Hospital Civil, pabellón 5, sótano
29009 Malaga
Spain
Tel: +34 95 1030346
Fax: +34 95 1030302
E-mail:
mariaj.torres.sspa@juntadeandalucia.es

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Lichenoid drug eruption due to an antihypertonic drug containing irbesartan and hydrochlorothiazide

F. Pfab, G. I. Athanasiadis, A. Kollmar, J. Ring, M. Ollert*

Key words: Karvecide, irbesartan, hydrochlorothiazide, lichenoid, drug eruption.

History. A 75-year-old Caucasian woman presented with a 1-year history of an itchy skin eruption. She had started to take a new antihypertensive drug composed of irbesartan and hydrochlorothiazide (Karvecide®) about 1 year earlier. Three months prior to presentation to our clinic this therapy had been switched to a drug composed of losartane and hydrochlorothiazide (Lorzaar plus®). Two years ago chronic lymphatic leukaemia had been diagnosed without need for therapeutic intervention. There was no personal or family history of atopy or other allergic diseases.

Dermatological examination. On skin examination she demonstrated multiple polygonal skin coloured and red papules and plaques with fine scaling and lichenification on the whole body, sparing the facial region and oral cavity (Fig. 1A and B). Predelection sites of the skin eruptions were the lower extremities and the volar side of the forearms. Wickham's striae were not seen. Dermographism was normal.

Laboratory examination. Blood examination showed elevated lymphocytes (54 100/μl; normal range 1000–4800/μl).

First reported lichenoid drug eruption due to an antihypertonic drug containing irbesartan and hydrochlorothiazide.

Routine serum parameters were normal except for an elevated LDH (260 U/l; normal range 120–240 U/l). Hepatitis-serology, ANA, mycology from scales, abdominal and lymph node ultrasound were without pathological findings.

Dermatopathology. Histologic examination revealed in the HE staining an orthohyperkeratosis, focal hypergranulosis, and in sections hydropic degeneration of the basement membrane zone; subepidermally a band-shaped lymphohistiocytic infiltrate was present (Fig. 1C).

Allergy tests. Patch tests according to the standard of the German Contact Dermatitis Group together with the suspected drugs revealed single positive reactions for Karvecide® as well as bufexamac (Fig. 1D). Five control subjects tested with Karvecide® showed no reaction. Single substances tested – irbesartan and hydrochlorothiazide – were negative; Lorzaar plus® was also negative.

Treatment and clinical course. Based on clinical and histological findings and the patch test results, the diagnosis of a lichenoid drug eruption due to intake of Karvecide® was made. After changing the antihypertensive treatment to amlodipine and moxonidine, we advised the patient to avoid intake of angiotensin-II-receptor-antagonists and hydrochlorothiazide and treated with high potency topical steroids (mometasone fuorate twice daily). A significant improvement was noted after 2 weeks of treatment; after 6 months the patient showed continuous clinical improvement without further therapy.

Discussion. Irbesartan is a potent and selective angiotensin II subtype receptor antagonist indicated for the use in patients with hypertension, including those with type 2 diabetes and nephropathy (1). The overall incidence of adverse effects is low (1); while drug reactions to antihypertensive drugs have been commonly reported, only few drug eruptions due to intake of irbesartan have been described previously (2–4); only one of them – a maculopapular exanthema – could be clearly correlated to irbesartan intake (3). According to our knowledge, this is the first lichenoid drug eruption due to intake of Karvecide®. The negative patch test reactions to the single substances (irbesartan, hydrochlorothiazide and ferrum oxide) and Lorzaar

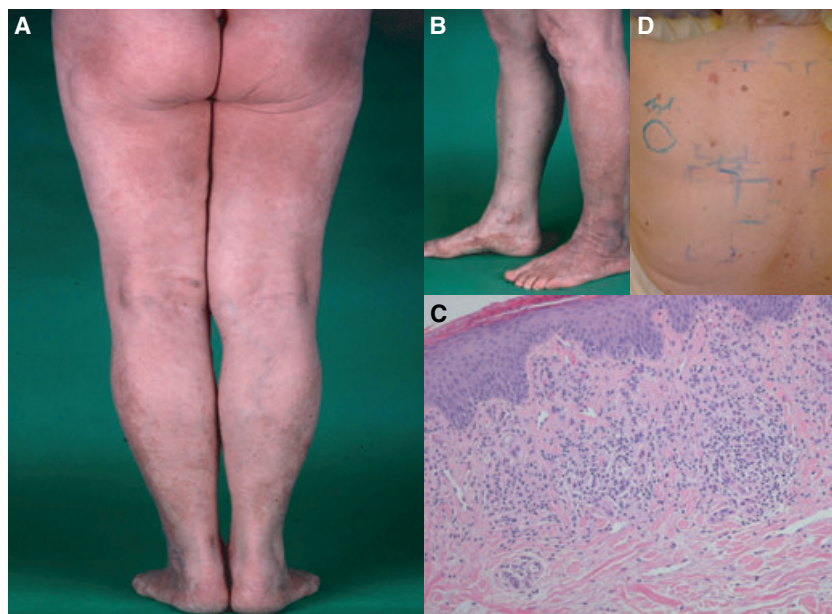


Figure 1. A and B: Clinical picture at presentation. C: Dermatopathology showing orthohyperkeratosis, focal hypergranulosis, and in sections hydropic degeneration of the basement membrane zone; sub-epidermally a band-shaped lymphohistiocytic infiltrate; haematoxylin-eosin stain. Original magnification $\times 10$. D: Patch test revealing positive reaction to combined preparation IH and bufexamac.

plus® are interpreted as 'compound' allergy and might be explained by an accumulating, or a neoantigenic effect of the substances when combined (5, 6).

*Department of Dermatology and Allergy
Technische Universität München
Biedersteiner Str. 29
D-80802 Munich/Germany
Tel.: ++49-89-4140-3550
Fax: ++49-89-4140-3552
E-mail: ollert@lrz.tum.de

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Immediate type hypersensitivity to low molecular weight heparins and tolerance of unfractionated heparin and fondaparinux

T. Harr, K. Scherer, D. A. Tsakiris, A. J. Bircher*

Key words: drug allergy; fondaparinux; heparin; immediate type hypersensitivity.

Delayed-type hypersensitivity to not only high but also low molecular weight heparins (LMWH) and recently to fondaparinux (1, 2) is occasionally observed as localized infiltrated plaques at

the injection sites. By contrast, immediate-type hypersensitivity to heparins is an extremely rare event if one takes into consideration that these compounds have been administered to a very large number of patients during the past 50 years. Consequently, literature concerning immediate-type hypersensitivity is sparse (3–6).

We report a 30-year-old female patient with Muckle-Wells syndrome (autoinflammatory, autosomal disease with cold urticaria and sensorineural deafness) and factor V Leiden thrombophilia, who has repeatedly used dalteparin (LMWH) subcutaneously (sc) over the past 10 years. During the last year mild local swelling was observed after use of dalteparin.

Upon the latest readministration of dalteparin, within 15 min, severe pruritic urticaria, nausea, mild dyspnea and swollen hands occurred, which responded to antiallergic treatment.

To test the working hypothesis of an immediate-type reaction to dalteparin (LMWH) an initial diagnostic work up with skin prick (SPT) and intracutaneous tests (ICT) with a series of LMWH (dalteparin, nadroparin, enoxaparin), glycosaminoglycan (danaparoid), unfractionated heparin, fondaparinux (a pentasaccharide) and the hirudin lepirudin was performed. To rule out a type I reaction to the preservatives, these specific substances were also tested.

Positive SPT were only observed with dalteparin and nadroparin, whereas positive ICT were seen with respect to all LMWH (dalteparin, nadroparin, enoxaparin) and to danaparoid, but not to unfractionated heparin, fondaparinux, and lepirudin (Table 1). Also, all preservatives (chlorocresol, sodium disulfite) tested were negative. Thirty minutes after the ICT series a mild flare of urticaria was observed which responded to oral antihistamines. After having obtained informed consent, a provocation test was performed with the skin test-negative unfractionated heparin and fondaparinux to identify an alternative drug for im-

A female patient with immediate hypersensitivity to LMWH and tolerance of unfractionated heparin and fondaparinux.