Dermatites de contact allergiques sévères: cas cliniques

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Service de Dermatologie

Unité d'Allergologie de contact

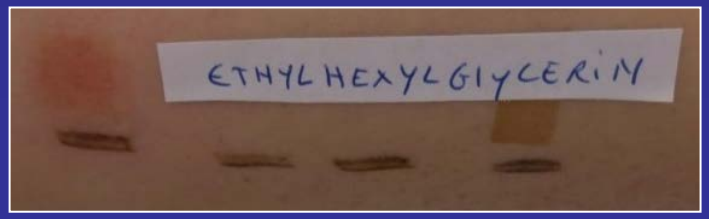
UZ KU Leuven

"Pas de conflit d'intérêt"

Dermatites de contact allergiques sévères

- “N’importe quel allergène peut être impliqué…”

agent “conservateur” cosmétique



cocamidopropyl betaine (shampooing)

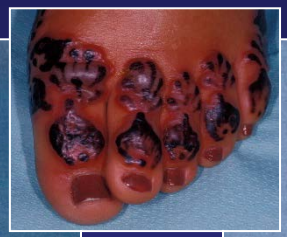
colophane et résine époxy

Dermatites de contact allergiques sévères

"Sofa dermatitis": dimethylfumarate
(un antifongique, cause d'une vraie épidémie mondiale il y a 10 ans…)

Dermatites de contact allergiques sévères
Para-Phénylènediamine (PPD)

Les tatouages “temporaires” au henné…



→ allergies croisées multiples (autres teintures capillaires, colorants “azo” textiles, additifs caoutchouc, anesthésiques locaux, …), avec parfois des conséquences professionnelles…

Dermatites de contact allergiques sévères: PPD

Teintures capillaires

… aussi pour sourcils

... et cils

Dermatites de contact allergiques sévères: PPD

Perte de cheveux

International Scholarly Research Network
ISRN Dermatology
Volume 2011, Article ID 947284, 2 pages
doi:10.5402/2011/947284

Case Report

Severe Hair Loss of the Scalp due to a Hair Dye Containing Para phenylenediamine

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Academic Editor: C. K. Jantniger

We report the case of a 41-year-old female showing severe hair loss approximately 90% after the use of a hair dye. These symptoms developed six days after the use of a hair dye containing PPD. A patch test showed a (++) reaction at 48 h to 1% PPD in petrolatum, whereas all metals and white petrolatum were negative. She was therefore diagnosed with contact dermatitis due to PPD, resulting in hair loss. The skin lesions gradually improved after starting treatment with the systemic corticosteroids. The possibility that allergic contact dermatitis from hair dyes may be responsible for telogen effluvium should always be considered in a patient with increased hair loss.

1. Case Report

A 41-year-old female was referred because of edema on the face and hair loss with severe itching of the scalp. The itching of the scalp started 1 day after the use of a hair dye containing PPD, and hair loss symptoms developed 6 days after the use of the hair dye (Figure 1(a)). Hair loss had spread to

these dyes often contain paraphenylendiamine (PPD). PPD is known to be the most frequent contact allergen found in hair dyes [1]. The possibility that allergic contact dermatitis from hair dyes may be responsible for telogen effluvium should always be considered in a patient with increased hair loss [2]. This report presents the case of a patient who experienced

Dermatites de contact allergiques sévères: PPD

Présentation clinique

eczéma subaigu

lupus discoïde (2 semaines plus tard)

anatomo-pathologie

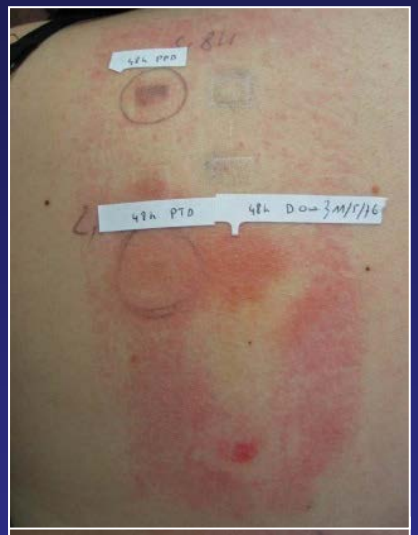
eczéma

lupus érythémateux

Patch tests

eczéma (D2/D4)

lupus discoïde (2 semaines plus tard)



anatomo-pathologie

= lupus érythémateux

ANF négatif

Van Aerde E, Kerre S, et al. Discoid lupus triggered by ACD from a hair dye. Contact Dermatitis 2016; 74: 61-4.

Dermatites de contact allergiques sévères: PPD

Syndrome de ‘Sweet’

Neutrophilic and Eosinophilic Dermatitis Caused by Contact Allergic Reaction to Paraphenylenediamine in Hair Dye

Vincent Lönngren, MScMed; Ewa Young, MD; Mecius Simanaitis, MD, PhD; Cecilia Svedman, MD, PhD

Arch Dermatol. 2012;148:1299

Background: Paraphenylenediamine (PPD) in hair dyes can cause systemic as well as cutaneous allergic reactions such as neutrophilic and eosinophilic dermatitis. The symptoms are often severe. The acute lesion is normally histologically indistinguishable from any eczematous reaction with marked spongiosis.

Observations: We report a case of allergic contact dermatitis caused by the use of hair dye containing PPD that developed in a patient who had been using the same hair dye for many years. Her symptoms included scalp dermatitis and widespread skin lesions as well as lymphadenopathy and quite possibly dyspnea resembling asthma. What is most remarkable about this case is the histopathologic finding of neutrophilic cellulitis and a marked neutrophilic infiltrate with variable spongiosis. This unique finding was confirmed by histologic analysis of a patch test lesion specimen.

Conclusion: It is always important to consider contact allergic dermatitis as a cause of dermatitis because of the variable presentation of the disease, including unique histologic findings that do not fit the conventional picture, as in the present case.

Arch Dermatol. 2012;148(11):1299-1301

Figure 1. Back of the upper chest area and neck covered by nummular erythematous plaques with excoriations and crusts.

Figure 2. The patient's neck and ear covered with lesions.

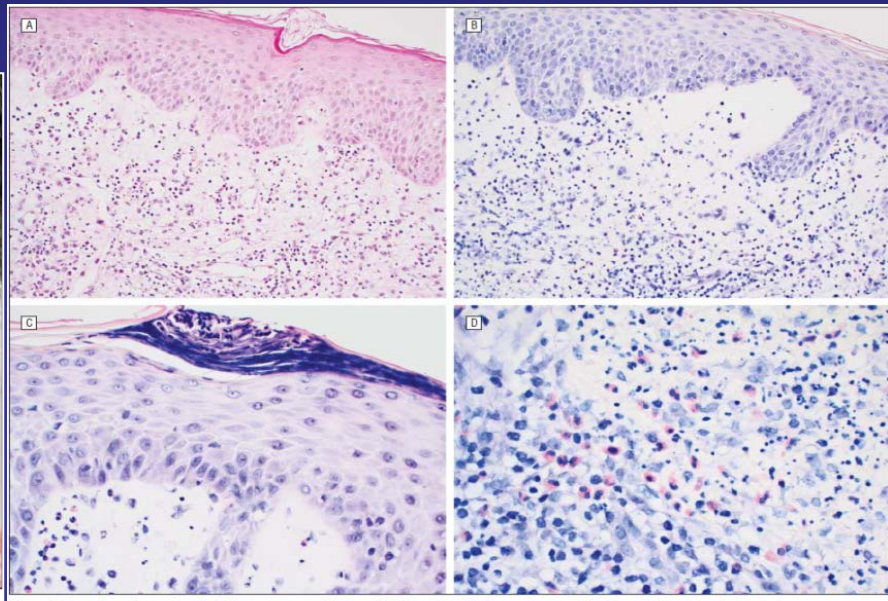


Figure 3. Four photomicrographs of skin from the unusual lesions. A, Diffuse dermal infiltrate of neutrophils with variable epidermal spongiosis (hematoxylin-eosin, original magnification ×200). B, Pronounced edema of the papillary dermis (Giemsa, original magnification ×200). C, Focal parakeratosis (Giemsa, original magnification ×400). D, Admixture of eosinophils (Giemsa, original magnification ×400).

Dermatites de contact allergiques sévères: PPD

Dépigmentations (“leukoderma”)

Hair-dye-induced contact vitiligo treated by phototherapy

Contact Dermatitis 2007: 56: 115–116

A. Trattner[1,2] and M. David[1,2]

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[2]Sackler Faculty of Medicine, Tel Aviv University, Tel Aviv 61390, Israel

Key words: contact vitiligo; hair dye; phototherapy

Contact, or occupational, vitiligo is characterized by loss of pigment and destruction of pigment cells on exposure to chemical agents. We describe an unusual case of contact vitiligo caused by hair dye and its alleviation with UV-light treatment.

The first published case of contact vitiligo, reported by Oliver et al. (1) in 1939, was caused by exposure to monobenzyl ether of hydroquinone, an antioxidant used at that time in the manufacture of industrial rubber gloves. This was followed by additional reports of chemically induced vitiligo, mostly in occupational settings. In 1993, Taylor et al. (2) reported 4 cases of a contact leukoderma associated with the use of hair dye. Specific allergens were identified in 3 of the 4 patients, including benzyl alcohol and paraphenylenediamine. 3 of the patients were not treated, and in only 1 of them did the pigment gradually return to all the affected areas, except the scalp. The 4th patient was treated with topical psoralen and UV A phototherapy for 18 months, which led to partial perifollicular repigmentation of the skin in the forehead and above the ears. Since then, there have been very few reports in the literature of contact vitiligo due to hair dye (3, 4).

In the present case, the patient complained of severe itching and depigmentation, which he associated

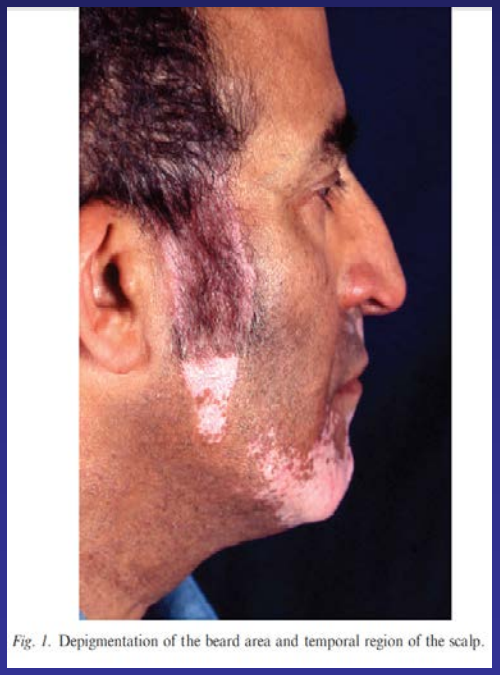


Fig. 1. Depigmentation of the beard area and temporal region of the scalp.

Farsani TT et al. Chemical leukoderma from hair dye containing para-phenylenediamine. Dermatitis 2012; 23: 181.

Dermatites de contact allergiques sévères

Dépigmentations (“leukoderma”)

résine PTBP

CPAP

“flippers”

dibutylthiouré

Dermatites de contact allergiques sévères

Granulomes

aluminium: vaccins

palladium: piercings

cyclohexenone

Histologie lésion clinique et patch-test: = granulome (réaction qui persiste)

Goossens A et al. Allergic contact granuloma due to palladium following ear piercing. Contact Dermatitis 2006; 55: 338

Dermatites de contact allergiques sévères

Oedèmes sévères

formaldéhyde: lisseur cheveux

méthylisothiazolinone

filtre solaire: photo-allergie

Van Lerberghe L, Baeck M. A case of acute contact dermatitis induced by formaldehyde in hair-straightening products. Contact Dermatitis. 2014;70:384-6.

Dermatites de contact allergiques sévères

Réactions “lymphomatoides” (dd. infiltrat lymphocytaire)

méthylisothiazolinone

Cosmetiques et détergents (aéroportée)

Morren et al. Contact allergy to isothiazolinone derivatives. Unusual clinical presentations. Dermatology 1992; 184: 206-4.
Van Steenkiste E et al. Airborne-induced lymphomatoid contact dermatitis from methylisothiazolinone. Contact Dermatitis 2015; 72: 237-40

Dermatites de contact allergiques sévères

Cosmétiques pour ongles: (méth)acrylates

- allergènes professionnels

Dermatites de contact allergiques sévères

Cosmétiques pour ongles: (méth)acrylates

- allergènes pour les consommateurs*

dd. psoriasis

Méthyl méthacrylate

Hydroxyéthyl méthacrylate

Ethylèneglycol diméthacrylate

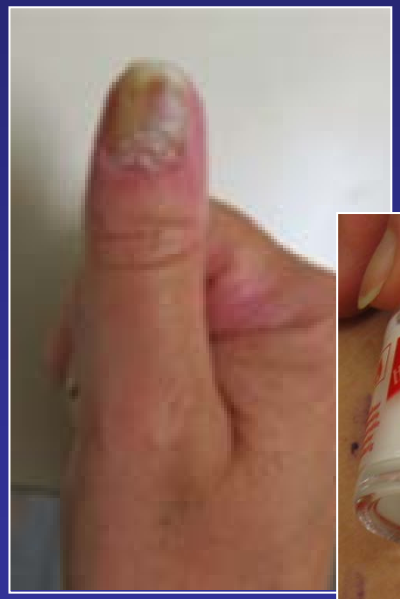
* polymérisation incomplète des monomères d'acrylates et de méthacrylates

Dermatites de contact allergiques sévères

Cosmétiques pour ongles: (méth)acrylates

- cause de dystrophie, onycholyse, parfois perte de l'ongle

cf. formaldéhyde dans des durcisseurs



Dermatites de contact allergiques sévères

Cosmétiques pour ongles: cyanoacrylates, aussi dans …

- les colles pour les faux-cils et plaies chirurgicales!

2-éthyl cyanoacrylate*

colle chirurgicale

* réaction croisée avec 2-octyl & butyl cyanoacrylates

Les acrylates: des allergènes puissants…

Capteurs de glycémies et les CGM (Continuous Glucose Monitoring)

"Glucose sensors"

Enlite®

Freestyle libre®

Isobornyl acrylate

Herman A et al. Allergic contact dermatitis caused by isobornyl acrylate in Freestyle® Libre, a newly introduced glucose sensor. Contact Dermatitis 2017; 77: 367-73

Peeters C. et al. Allergic contact dermatitis caused by 2-ethylcyanoacrylate contained in glucose sensor sets in two diabetic adults. Contact Dermatitis 2017: 77: 426-7.

Dermatites de contact allergiques sévères

Réactions systémiques

Triglycidylisocyanurate
dans des poudres de peinture

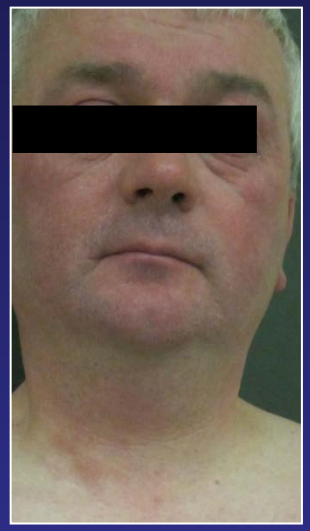
Inhalation!

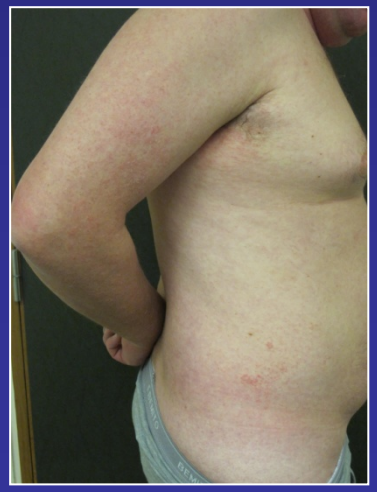
Syndrome ‘Babouin’ (SDRIFE)

“Exanthème mercuriel”,
aérosols au budésonide, …

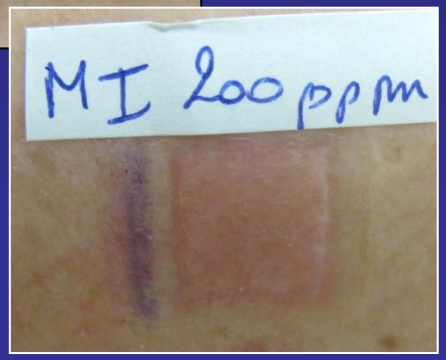
Dermatites de contact allergiques sévères

Réactions systémiques





Méthylchloro- et/ou méthylisothiazolinone



peintures et colles à l'eau…

Dermatites de contact allergiques sévères

Réactions systémiques

Crème Mycolog®

'AGEP' suite à l'administration de l'aminophylline = théophylline + éthylènediamine

Dermatites de contact allergiques sévères

Eruption “érythème multiforme” (réaction à distance, dissémination hématogène de l’allergène)

étofenamate

méfénesine

Erythema multiforme-like eruption because of para-phenylenediamine

Contact Dermatitis 2008: 58: 65–66

Anna Balato[1], Cataldo Patruno[2], Nicola Balato[1], Lucia Gallo[1] and Fabio Ayala[1]

[1]Department of Dermatology, University of Naples Federico II, 80131 Napoli, Italy and [2]Department of Dermatology, ASL Napoli, Centro Direzionale, 80100 Napoli, Italy

Key words: allergic contact dermatitis; cosmetics; patch test.

Erythema multiforme-like (EM-like) eruption is a rare manifestation of contact dermatitis. It can be caused by many allergens like plants, metals, or topical non-steroidal anti-inflammatory drugs (NSAIDs) (1). We report the case of a 29-year-old woman who developed widespread EM-like lesions after local contact with para-phenylenediamine (PPD).

In addition, the growth of hair in eczematous areas of the scalp was noticed after 1 month.

Patch testing with standard Società Italiana di Dermatologia Allergologica Professionale e Ambientale (SIDAPA) series gave positive reactions to PPD (++) and nickel sulfate (+).

She was treated with topical and systemic corticosteroids and systemic

We present a case of EM-like eruption caused by PPD. In our patient, an EM-like eruption followed an acute contact dermatitis to hair dyes; the lesions appeared within 1 day of the dye being used and patch test confirmed sensitization to PPD. She dyed her wig with products formulated for natural hair and not specific for wigs. To our knowledge, this is the first

K. Wiedermeyer et al. Erythema multiforme following contact dermatitis due to para-phenylene diamine. Contact Dermatitis 2006; 55: 59.

Dermatites de contact allergiques sévères

Résines époxy et acrylates dans la technologie 3D

Dermatites de contact allergiques sévères

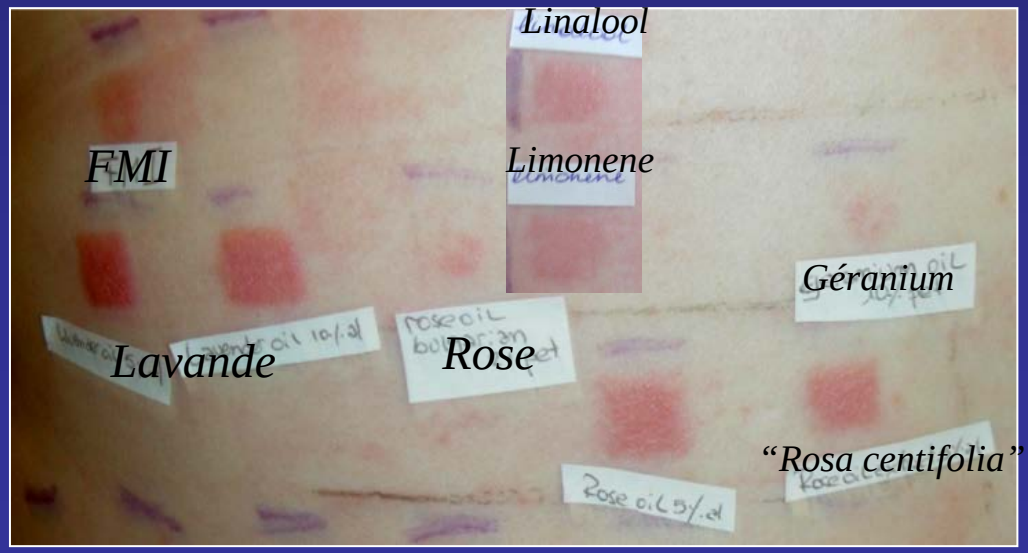
“Flare-up”

Creytens K, Gilissen L, Huygens S, Goossens A. A new application for epoxy resins resulting in occupational allergic contact dermatitis: the three-dimensional printing industry. Contact Dermatitis 2017; 77: 349-51.

Dermatites de contact allergiques sévères
Problèmes liés aux produits naturels

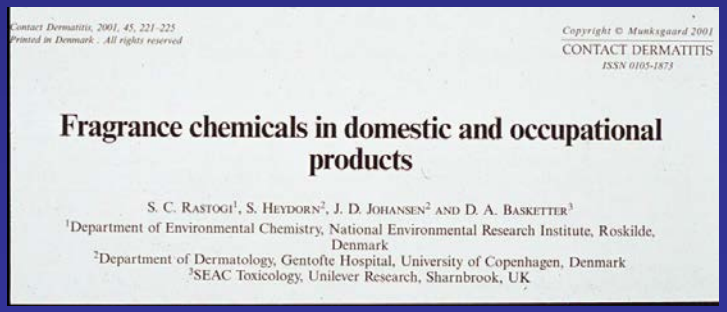
Huiles essentielles

'*Rosa centifolia*' dans un produit "fragrance-free"



Dermatites de contact allergiques sévères
Problèmes liés aux produits naturels

Les parfums renferment des substances terpéniques sensibles à l'auto-oxydation (= préhaptènes)


Contact Dermatitis, 2001, 45, 221–225
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CONTACT DERMATITIS
ISSN 0105-1873

Fragrance chemicals in domestic and occupational products

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[3]SEAC Toxicology, Unilever Research, Sharnbrook, UK

Bråred Christensson J, et al. Positive patch test reactions to oxidized limonene: exposure and relevance. Contact Dermatitis 2014; 71: 264-72.

Dermatites de contact allergiques sévères

Problèmes liés aux produits naturels

- ‘gel à base d’arnica’ (préparation magistrale)

- patch test positif à l’extrait utilisé seul!

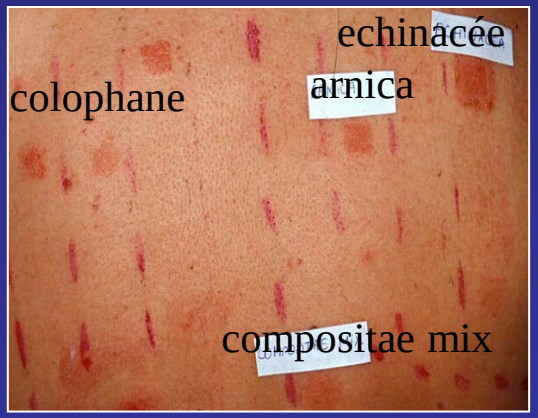
Problèmes liés aux produits naturels

Réactions systémiques

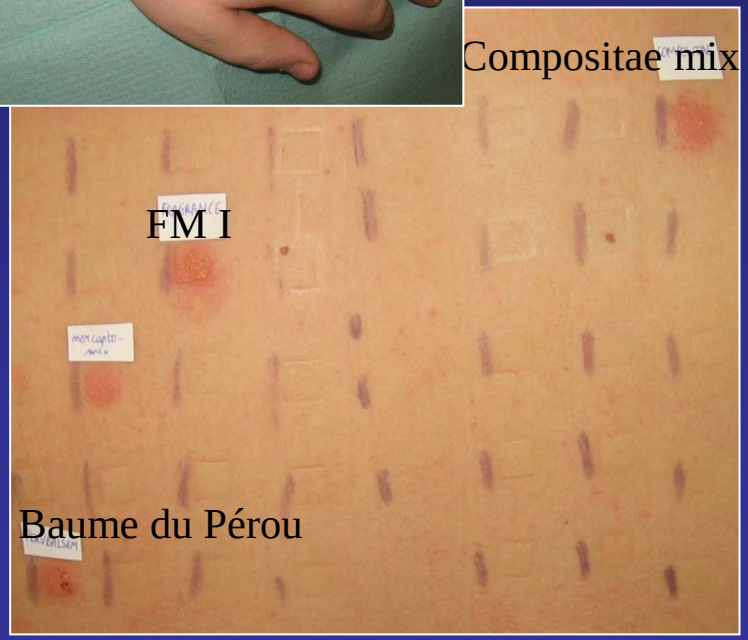
- lactones sesquiterpéniques (Composées, Lauracées, Magnoliacées)

Problèmes liés aux produits naturels: Polysensibilisations

*Composées (*ou *Asteracées):* terpènes oxydés



Lactones sesquiterpéniques
SQL-mix: négatif!!!



Paulsen et al. Colophonium and compositae mix as markers of fragrance allergy: cross-reactivity between fragrance terpenes, colophonium and compositae plant extracts. Contact Dermatitis 2005; 53: 285

Dermatites de contact allergiques sévères
Problèmes liés aux produits naturels

Huile de l'arbre de thé: terpènes oxydés

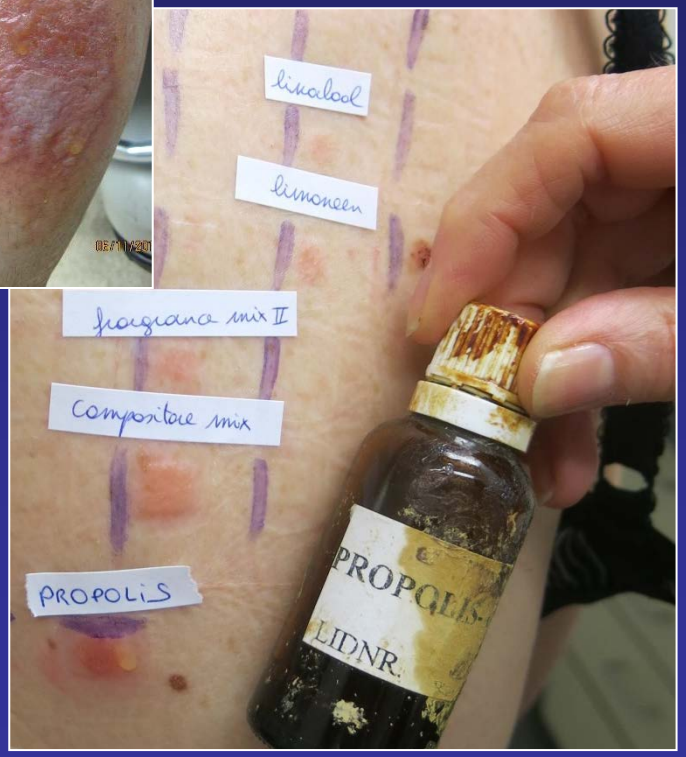
R/ eczéma du visage

R/ Mycose des pieds

Hausen et al. Degradation products of monoterpenes are the sensitizing agents in tea tree oil. Am J Cont Derm 1999; 10: 68

Problèmes liés aux produits naturels: Polysensibilisations

Propolis et… FM I, FM II, baume du Pérou, colophane, linalool- et limonène HP, *Compositae* mix (arnica, camomille, echinacée)



R/ verrues

Problèmes liés aux produits naturels: Polysensibilisations

Propolis

R/ Ampoule

TABLE 7. Chemicals Which May Be Present in Both Propolis and *M. pereirae* Resin[1,91,92,175–177]

Aromatic acids
Benzoic acid*†
Caffeic acid (3,4-dihydroxycinnamic acid)*
Cinnamic acid*†
Ferulic acid (3-methoxy-4-hydroxycinnamic acid)*
Isoferulic acid (3-hydroxy-4-methoxycinnamic acid)†
Vanillic acid (3-methoxy-4-hydroxybenzoic acid)

Aromatic esters
Benzyl benzoate*†
Benzyl cinnamate*†
Benzyl ferulate
Benzyl isoferulate*†
Benzyl salicylate*†
Cinnamyl cinnamate*†
Coniferyl benzoate*†
Methyl benzoate

Fatty acids
Docosanoic acid
Dodecanoic acid (lauric acid)
Eicosanoic acid (arachidic acid)
Hexacosanoic acid (cerotic acid)
Octadecanoic acid (stearic acid)
Tetradecanoic acid (myristic acid)

Others (terpenoids, alcohols, aldehydes)
Benzyl alcohol†
Cinnamyl alcohol*†
Eugenol (terpenoid)†
1-Tetracosanol (lignoceryl alcohol)
Nerolidol (terpenoid)†
Vanillin (aldehyde)*

*Has caused positive patch test reactions in patients allergic to propolis (vide infra).
†Has caused positive patch test reactions in patients allergic to M. pereirae resin.[176]

de Groot et al. Propolis : A review fo properties, applications, chemical composition, contact allergy and other adverse effects. Dermatitis 2013; 24: 263
Anouck Lamoureux et al. A first case of erythema multiforme-like contact dermatitis caused by propolis. Contact Dermatitis 2017; 77: 250–267

Dermatites de contact allergiques sévères

Kétoprofène (AINS)… et dermatite photo-allergique de contact

“The ketoprofen story”…

Les malades photosensibilisés au kétoprofène:

- souffrent souvent d’une dermatite sévère de longue durée (même parfois durant des mois suite à l’arrêt du R/)

- présentent des lésions à des endroits du corps autres que le site d’application (transfert, contamination par les vêtements*, par procuration, …), ainsi que

- de multiples patch et photo-patch tests positifs

Hindsen M et al.. Photoallergic contact dermatitis from ketoprofen induced by drug-contaminated personal objects. J Am Acad Dermatol; 2004: 50: 215

Dermatite photo-allergique de contact au kétoprofène

- transfert d’un endroit du corps à l’autre

Dermatite photo-allergique de contact au kétoprofène

- contamination

par un banc solaire…

par une chaise, …?

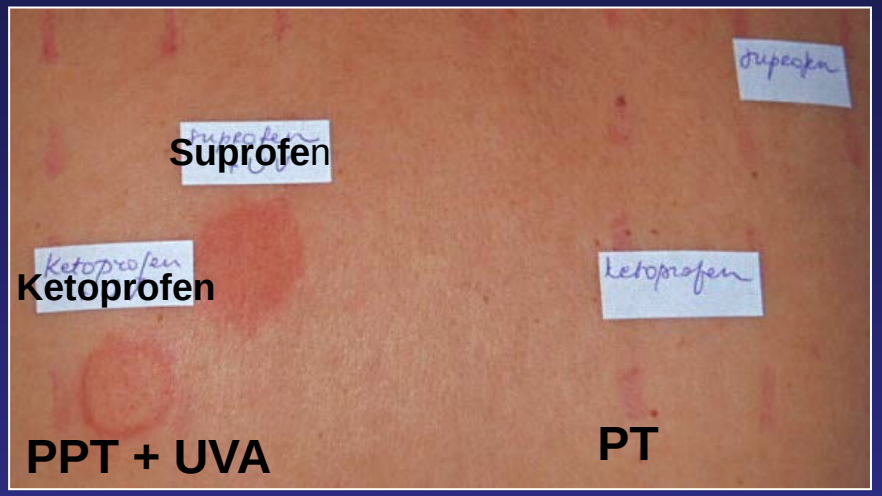
Dermatite photo-allergique de contact au kétoprofène

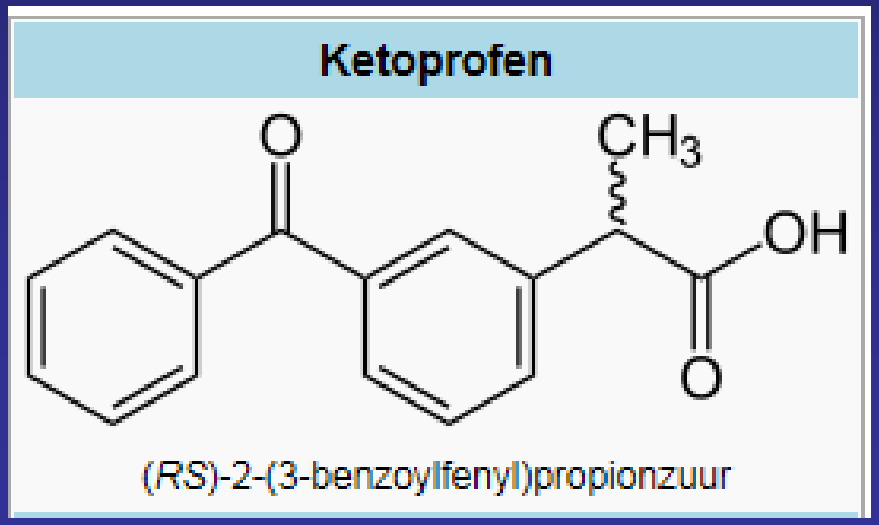
- par procuration

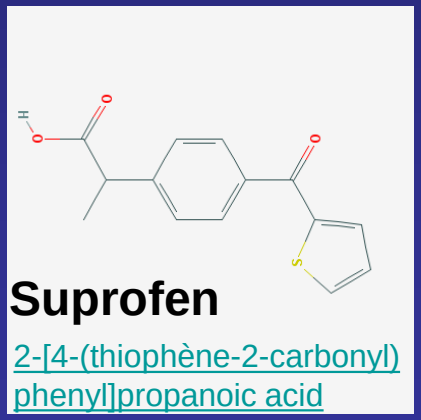
Gallo R et al. Consort allergic contact dermatitis caused by ketoprofen in a tango dancer. Contact Dermatitis 2010 ; 63 :172

Photo-patch tests positifs au kétoprofène et…

AINS chimiquement apparentés



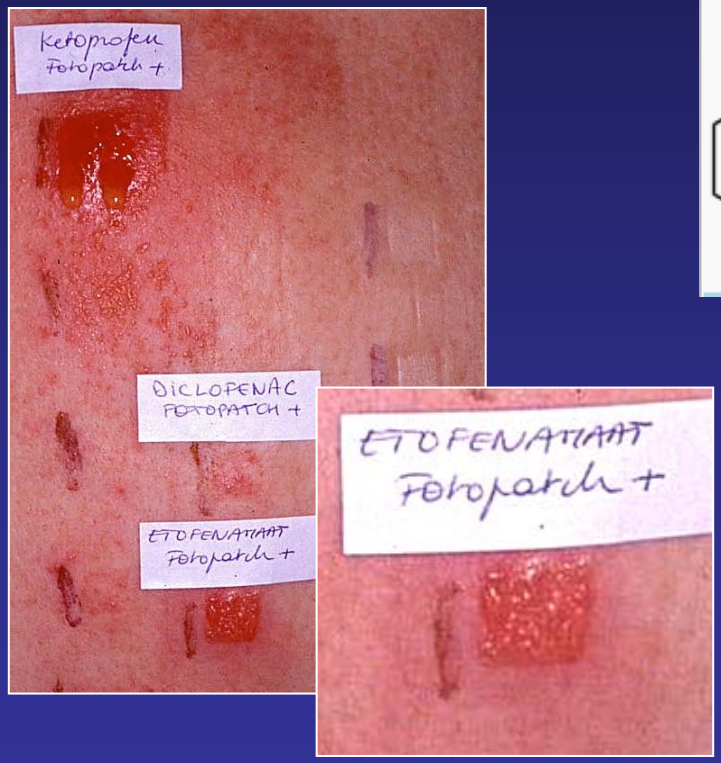


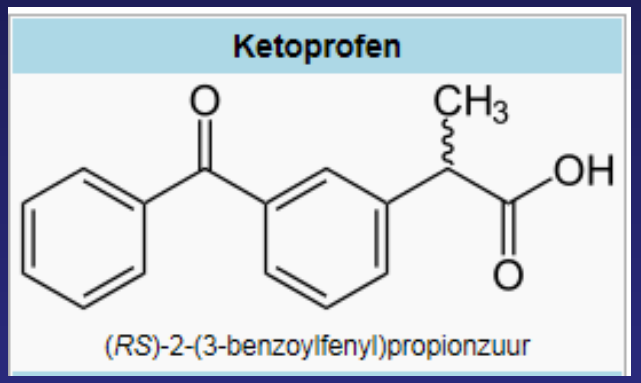


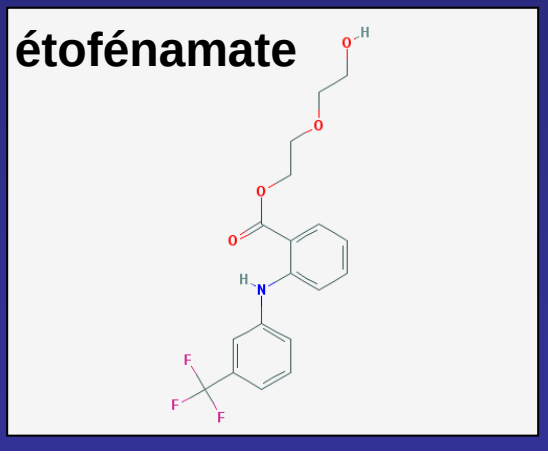
V. Devleeschouwer, R. Roelandts, M. Garmyn, A. Goossens. Allergic and photo-allergic contact dermatitis from ketoprofen: results of (photo-)patch testing and follow-up of 42 patients. Contact Dermatitis 2008; 58: 159-60

Photo-patch tests positifs au kétoprofène et…

AINS non-chimiquement apparentés







et plusieurs autres molécules: fentichlor, tetrachlorosalicylanilide, bithionol, triclosan, …

Pourquoi?

Photo-patch tests positifs au kétoprofène et étofénamate…

- enfant de 15 ans, photosensibilisé au kétoprofen suite à l'application du Fastum® gel au poignet et avant-bras (sous bandage)

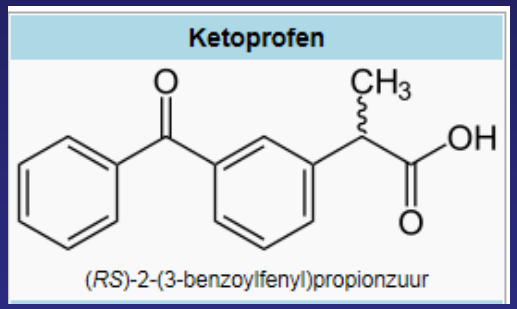
-aucune exposition préalable à l'étofénamate (Flexium®)

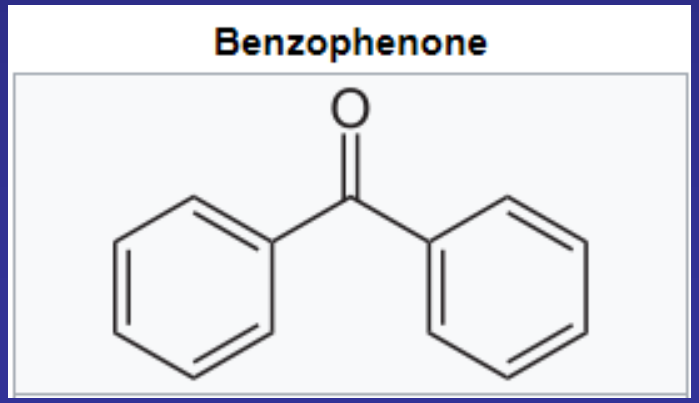
Photo-patch tests positifs au kétoprofène et…

Filtres solaires: benzophénones et octocrylène

Photo-patch tests positifs au kétoprofène et …

Benzophénones = produits de dégradation du kétoprofen formés par exposition aux UVA





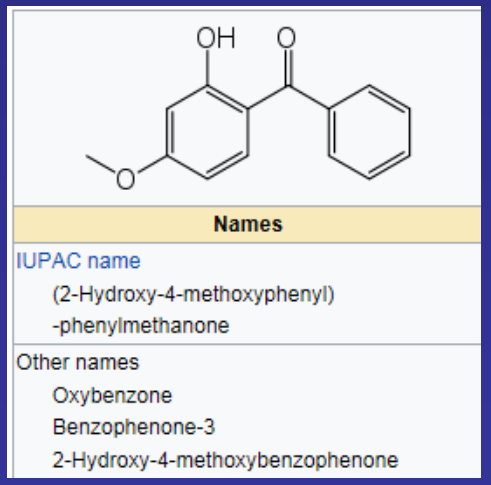
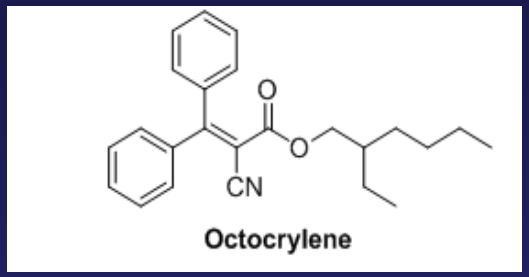
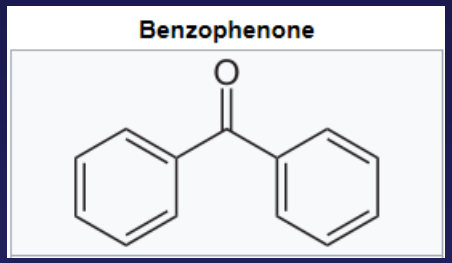


Photo-patch tests positifs au kétoprofène et …



contient des benzophénones



Octocrylène: le matériel actuellement commercialisé pour patch et photo-patch tests n'identifie pas cet allergène (faux-négatifs), car

- absence d'impuretés (contrairement aux anciens lots)

- utilisation d'octocrylènes moins purifiés dans les produits cosmétiques, ce qui explique pourquoi les crèmes solaires, ainsi que les octocrylènes fournis par les producteurs se révèlent souvent positifs….

Aerts et al. Almost missed it! Photo-contact allergy to octocrylene in a ketoprofen-sensitized subject. Dermatitis 2016: 27: 33-4.

Benzophénones: impuretés dans l'octocrylène

- Suite juridique USA

*Sun and Skin care Research

February 19. 2015.

1.5 **No Admission.*** SSCR denies the material, factual, and legal allegations contained in the Notice, and maintains that all of the products it has manufactured, sold, or distributed for sale in California, including the Products, have been, and are, in compliance with all laws, including Proposition 65. SSCR maintains that the chemical benzophenone (C.A.S. No. 119-61-9) is not intentionally added to any Product. SSCR has a good faith belief that the chemical benzophenone allegedly contained in the Products is a by-product of the raw ingredient octocrylene, if that solvent is an ingredient in a Product. SSCR is not aware of any other source of benzophenone in the Products. Further, SSCR will continue to work with its raw ingredient supplier(s) to obtain the lowest maximum level of benzophenone in the raw ingredient octocrylene that is used in SSCR's finished sunscreen products. Nothing in this Settlement Agreement shall be construed as an admission by SSCR of any fact, finding, conclusion of law, issue of law, or violation of law; nor shall compliance with this
or be construed as an admission by SSCR of any fact, finding, c
violation of law, the same being specifically (February 19. 2015.
diminish or otherwise affect SSCR's obligations, responsibilities
Settlement Agreement.

Photo-patch tests positifs au kétoprofène et patch test positifs aux …

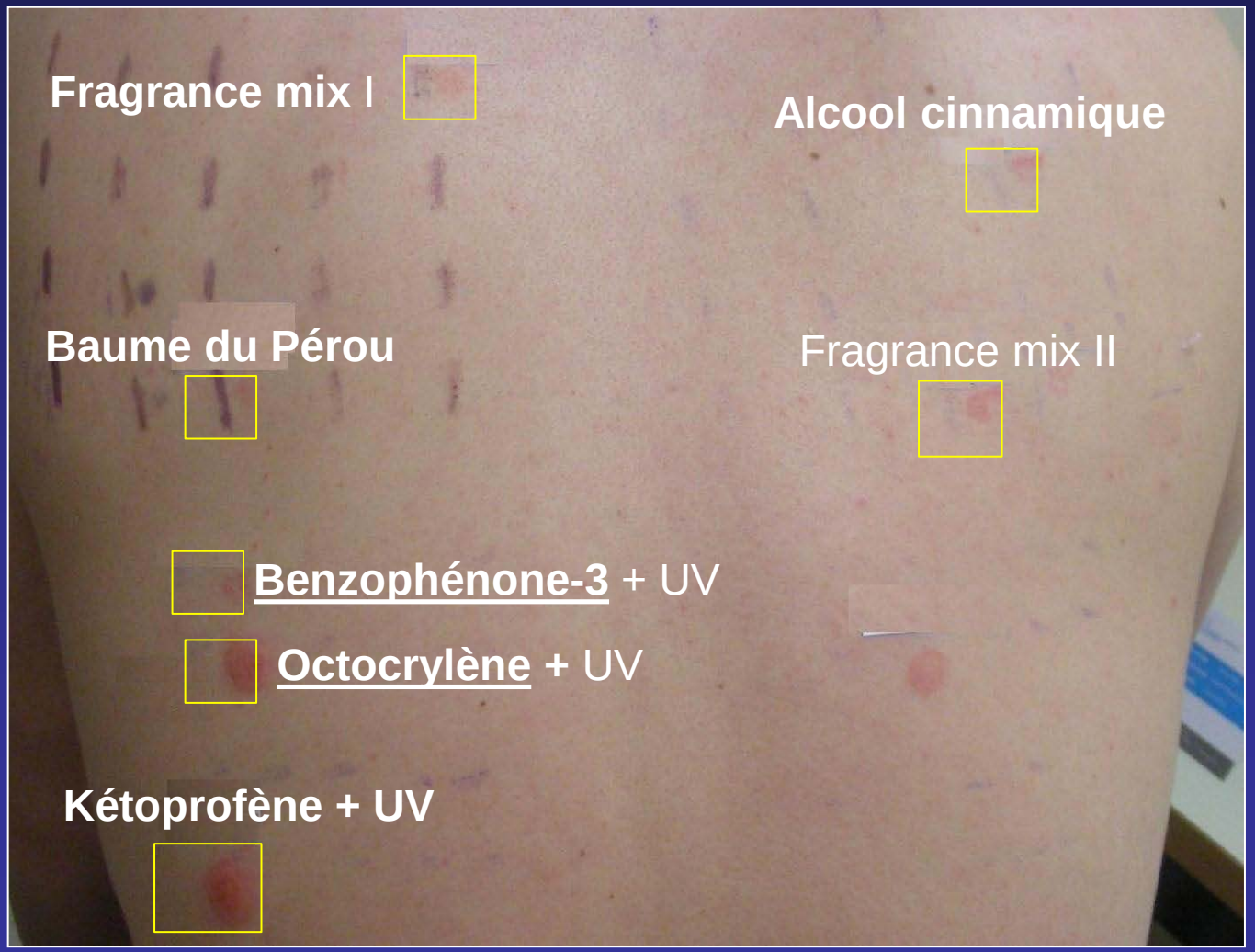
Fragrance-mix I (mélange de composants parfums) et baume du Pérou, notamment l'alcool cinnamique

Pourquoi?

Photo-patch tests et patch tests positifs multiples

Kétoprofène

Un exemple typique….



Problèmes liés aux produits naturels

Réactions systémiques: la cannelle et ses composants…

> 27% *Cinnamomum zeylanicum*

- Mertens M et al. Generalized systemic allergic dermatitis caused by Cinnamomum zeylanicum in a herbal tea. Contact Dermatitis 2017; 77: 259-61.

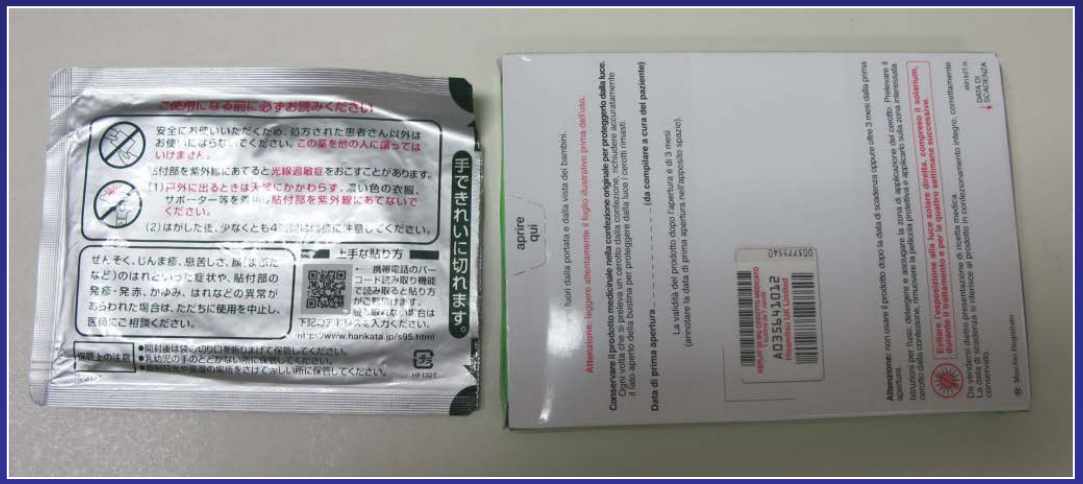
Photo-sensibilisation au kétoprofène et…

Réactions systémiques: fénofibrate + exposition UV

Kétoprofène “dressings”

(non commercialisés en France/Belgique…)

Pays aziatiques (Korée, Japon, …)



Aerts O et al. Contact allergy with photo-aggravation caused by a plaster containing Ketoprofen. Contact Dermatitis 2012: 66 (Suppl. 2): 18-19.

Kétoprofène et photo-patch tests

- une occlusion pendant 1 ou 2 hrs révèlent déjà une photo-allergie…

NOTICE: INFORMATION DE L'UTILISATEUR

Fastum 2,5 % Gel

Kétoprofène

au moins 1 à 2 mois, et encore…!

- Pendant le traitement et les deux semaines suivant l'arrêt, ne pas exposer les zones traitées au soleil (même par temps nuageux), ni aux rayonnements UV en solarium.

Garnemark V et al. Photopatch testing with ketoprofen using 1 h occlusion. Contact Dermatitis 2006; 55: 11

Souvenez-vous!

Evitez le kétoprofène …

“L’Oréal Mythic Oil”

Cyclopentasiloxane, Dimethiconol, C12-15 Alkyl Benzoate, Persea Gratissima (Avocado) Oil, Vitis Vinifera (Grape) Seed Oil, Limonene, Hexyl Cinnamal, Coumarin, Linalool, Buthylphenyl Methylpropional, Benzyl Alcohol, Hydroxycitronellal, Amyl Cinnamal, Geraniol, Alpha-Isomethyl Ionone, Isoeugenol, Benzyl Benzoate, **Cinnamyl Alcohol**, Citronellol, Parfum (Fragrance), C47052/1

Je vous remercie de votre attention…