

FIGURE 2 A patient with disseminated actinic porokeratosis (DSAP) of arms and legs (A), who developed primary skin sensitization and subsequent allergic contact dermatitis (ACD) to simvastatin, 6 months after applying a novel topical cream containing simvastatin 2% and cholesterol 2%. Patch tests (B) confirmed sensitization to the cream (“as is”, ++) (*) and to its active ingredient simvastatin 1% pet. (++) (**) on Day 3.

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Allergic contact dermatitis from a skin-calming cream containing hydroxyphenyl propamidobenzoic acid

Gabriela Blanchard¹ | Anna Walker¹ | Ella Dendooven^{2,3} | Olivier Aerts^{2,3} | An Goossens⁴ | Michel Gilliet^{1,5} | Teofila Seremet¹

¹Department of Dermatology and Venereology, Lausanne University Hospital (CHUV), Lausanne, Switzerland

²Department of Dermatology, University Hospital Antwerp (UZA), Antwerp, Belgium

³Research Group Immunology, Infla-Med Centre of Excellence, University of Antwerp, Antwerp, Belgium

⁴Department of Medicine, KU Leuven, Leuven, Belgium

⁵Faculty of Biology and Medicine, University of Lausanne, Lausanne, Switzerland

Correspondence

Teofila Seremet, Department of Dermatology, Lausanne University Hospital (CHUV), Avenue de Beaumont 29, 1011 Lausanne, VD, Switzerland.

Email: teofila.caplanusi@chuv.ch

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Hydroxyphenyl propamidobenzoic acid (HPPBA; syn. dihydroavenanthramide D) is a synthetic analogue of naturally occurring avenanthramide which can be found in oats.¹ Symcalmin is a 5% solution of HPPBA in a vehicle of (1:1) butylene glycol and pentylene glycol and is commonly used by the pharmaceutical and cosmetic industry for its anti-inflammatory and anti-oxidant (i.e., anti-irritant and anti-itch) properties.^{2–4} We report the first case of allergic contact dermatitis (ACD) likely caused by HPPBA.

CASE REPORT

A 29-year-old Caucasian female, with no relevant medical history, presented with a generalized eczema evolving for 1 week. The rash had initially appeared on her left forearm and had secondarily spread to the trunk and limbs (Figure 1A–C). Three weeks earlier, she had been diagnosed with a left-handed De Quervain's tenosynovitis, for which she had applied an etofenamate-containing gel (Traumalix DOLO gel 5%, Drossapharm SA, Basel, Switzerland) and a Symcalmin-containing wound-healing cream (Bepanthen Sensiderm, Bayer AG, Leverkusen, Germany). Patch tests were performed with the European baseline, cosmetic, preservative and excipient series (Chemotechnique Diagnostics, Vellinge, Sweden, and AllergEAZE, Calgary, Canada), and with the patient's own products (patch-tested "as is"). All tests were mounted on IQ Ultra chambers (Chemotechnique Diagnostics), fixed with Mefix (Mölnlycke Health Care, Gothenburg,

Sweden) and occluded for 48 h. Readings, performed on day (D) 2 and D4 according to International Contact Dermatitis Research Group criteria, showed a positive reaction to Traumalix DOLO gel 5% (D2++, D4+++), and Bepanthen Sensiderm (D2--, D4++) (Figure 1D). Further patch-testing confirmed contact allergy to etofenamate 2% pet (Chemotechnique Diagnostics), the active ingredient in Traumalix DOLO gel 5% (D2++, D4+++), (Figure 1E). The individual ingredients of Bepanthen Sensiderm, kindly provided by the manufacturer in the same concentrations as found in Bepanthen Sensiderm, were subsequently patch-tested. They showed a positive reaction to Symcalmin, 5% solution of HPPBA in a vehicle of (1:1) butylene glycol and pentylene glycol (D2-, D4++) (Figure 1F), along with a negative reaction to both, dexpanthenol and pantolactone as well as to sodium benzoate 5% pet and benzyl alcohol 1% pet. Additional patch tests with butylene glycol (5%, 50aq/50alc) (La Roche Posay, La Roche Posay, France) and pentylene glycol (5%, 50aq/50alc) (La Roche Posay, La Roche Posay, France) both showed negative reaction. HPPBA (Figure 2) could not be patch-tested separately. Six unexposed controls were negative to the Symcalmin preparation. Generalized ACD caused by etofenamate in Traumalix DOLO gel 5%, and in addition due to Symcalmin, most likely to its component HPPBA, in Bepanthen Sensiderm, was thus diagnosed. The recommendation for the patient was to avoid both topical and systemic etofenamate-containing non-steroidal anti-inflammatory drugs (NSAIDs) as well as products containing HPPBA.



FIGURE 1 (A–C) Severe allergic contact dermatitis with secondary generalization caused by etofenamate and Symcalmin. (D) Positive patch test on Day 4 to Traumalix DOLO gel 5% (+++) and Bepanthen Sensiderm (++) (E) Positive patch test on Day 4 to etofenamate 2% pet (+++). (F) Positive patch test on Day 4 to Symcalmin, 5% solution of HPPBA in a vehicle of (1:1), butylene glycol and pentylene glycol, tested at the same concentration as in Bepanthen Sensiderm (++)

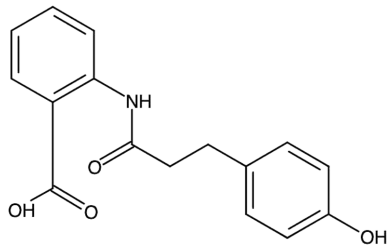


FIGURE 2 Chemical formulation of hydroxyphenyl propamidobenzoic acid (HPPBA; dihydroavenanthramide D). Symcalmin is a 5% solution of HPPBA in 1:1 butylene glycol and pentylene glycol

DISCUSSION

Etofenamate, used most commonly in a gel formulation, is a frequently used NSAID and may cause both allergic and photo-allergic contact dermatitis.^{5,6} In our case, etofenamate was considered to be a relevant contact allergen, along with HPPBA, the latter present in a skin-calming cream also containing dexpanthenol. Dexpanthenol,⁷ and its impurity pantolactone, are cosmetic allergens, the latter potentially even being the actual sensitizer in panthenol-containing products.⁸ Initially we had suspected these particular haptens to be at the origin of the reported reaction after application of Bepanthen Sensiderm; however, patch testing with both dexpanthenol and pantolactone remained negative, yet pointed towards a new sensitizing culprit, that is, HPPBA. False negative reactions to butylene glycol or pentylene glycol are not probable as at least patch testing with pentylene glycol resulted in a positive reaction (++++) in another patient patch-tested the same week as our patient (*data not shown*). Unfortunately, HPPBA, which is increasingly used in a wide range of cosmetic products,⁹ is currently not commercially available for patch-testing. More cases of ACD from this agent might however be encountered in the near future.

PATIENT CONSENT

Discussed patient gave consent for her photographs and medical information to be published in print and online and with the understanding that this information may be publicly available.

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CONFLICT OF INTEREST

Olivier Aerts is investigator, speaker and/or consultant for Leo Pharma and L'Oréal/La Roche Posay.

ORCID

Gabriela Blanchard  <https://orcid.org/0000-0001-7020-0751>

Anna Walker  <https://orcid.org/0000-0002-9857-3004>

Ella Dendooven  <https://orcid.org/0000-0002-3489-8010>

Olivier Aerts  <https://orcid.org/0000-0002-0076-2887>

An Goossens  <https://orcid.org/0000-0002-9805-3439>

Michel Gilliet  <https://orcid.org/0000-0002-4609-3762>

Teofila Seremet  <https://orcid.org/0000-0002-3789-6256>

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