Table. Drug Administration and Onset of Reaction Times

9.30 AM	Induction of anesthesia (midazolam, fentanyl, propofol), iodine skin preparation
9.45 AM	Ketorolac
9.50 AM	Paracetamol and morphine
10.00 AM	Ketorolac and morphine
10.45 AM	Crepe bandage applied to ankle
11.00 AM	Anaphylaxis

over the surgical wound at the beginning of surgery (9.30 AM) and at the end of surgery (10.45 AM), 15 minutes before the onset of the generalized reaction. We performed a skin prick test with neat povidone-iodine and obtained a positive result (wheal 22 mm, flare 10 mm). Identical tests performed on a control group of 10 adults (5 atopic and 5 nonatopic) were all negative. We therefore suspected that the patient had reacted to the povidone-iodine applied at the end of the surgery and believe that a small quantity was probably introduced into the intravascular passage through the surgical wound. The patient was diagnosed with perioperative anaphylaxis secondary to povidone-iodine. We recommended that the patient should avoid contact with povidone-iodine antiseptics, particularly in the case of incisions or mucosal exposure. As an alternative, we recommended antiseptic agents such as chlorhexidine. Because there is no cross-reactivity with iodine, we reassured the patient that he could tolerate antithyroid drugs, contrast media, and seafood [5].

In summary, we present an exceptional case of anaphylaxis secondary to povidone-iodine applied to a surgical wound. Even though povidone-iodine is widely used as an antiseptic in surgery, type I immunoglobulin E-mediated reactions are extremely unusual. We found only 5 such reports in the literature, 3 of which were related to the application of povidone-iodine in the mucosa [6-10]. Allergic contact dermatitis is more common with povidone-iodine. This case report confirms the importance of checking anesthesia charts and considering povidone-iodine and other antiseptics when investigating possible causes of perioperative anaphylaxis. We recommend including the study of antiseptics in the routine diagnostic approach to perioperative reactions.

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Manuscript received October 13, 2009; accepted for publication, January 7, 2010.

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2-Phenoxyethanol-Induced Contact Urticaria and Anaphylaxis

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Key words: Anaphylaxis. Contact. Cosmetics. Phenoxyethanol. Urticaria.

Palabras clave: Anafilaxia. Contacto. Cosméticos. Fenoxietanol. Urticaria.

A 42-year-old woman presented with a 6-month history of flares of hives lasting 30 minutes. The hives, which were self-resolving, developed on skin to which any of a large number of products had been applied. These products included moisturizers (Natural Honey Body Milk Primavera Verano and Rosaliac Hydratant Perfecteur), sun care products (After sun Isdin Pediatrics, Vichy Capital Soleil Après-soleil, Delial Ambre Solaire Niños 50+), skin cleansing solutions (Shiseido pureness Eau Dèmaquillante), and other products such as shampoos

and toothpaste. Three months before referral, on applying a moisturizer (Natural Honey Body Milk Primavera Verano) to her arms and legs, the patient immediately developed hives in the contact zone, followed by rhinorrhea, dyspnea, and dizziness without loss of consciousness. Spontaneous recovery occurred within approximately half an hour. She also reported perennial and intermittent nasal symptoms following direct exposure to house dust only.

A skin prick test battery performed with airborne allergens (*Dermatophagoides pteronyssinus, Lepidoglyphus destructor, Tyrophagus putrescentiae, Lolium perenne, Parietaria judaica, Plantago lanceolata, profilin, Alternaria alternata, Cladosporium herbarum, cat epithelium, dog epithelium*, and latex) showed positivity to *D pteronyssinus* only, leading to a diagnosis of intermittent allergic rhinitis.

Interestingly, immediately after using the blue ink pen (the brand name was not recorded) to mark the skin test, the patient developed hives in the area of these marks. We rubbed the skin on the patient´s back to test for dermographism but the result was negative.

We conducted an open test using the moisturizer in question and the patient developed an immediate urticarial reaction confined to the application area.

On studying the labels of all the cosmetics the patient had used (those that had caused reactions and those that had not), we suspected that 2-phenoxyethanol (CAS 122-99-6) might have been responsible for the reactions.

To test this theory, we conducted an open test on the volar aspect of the forearm with Euxyl-K 400 (80% methyldibromo glutaronitrile, 20% 2-phenoxyethanol) 0.1% in petrolatum—which showed minimal positivity—and with 2-phenoxyethanol 1% in petrolatum—which showed clear, immediate positivity followed by spontaneous resolution in about 30 minutes. The low positivity observed with Euxyl-K 400 may be related to the fact that 2-phenoxyethanol is present at a very low concentration (0.02%) in this compound.

As 2-phenoxyethanol is an ingredient in many vaccines, a prick test was performed with Infanrix-Hib (2-phenoxyethanol 5mg/mL) in our patient (positive) (Figure) and in 5 controls (negative).

Figure. Open test with Euxyl K-400, prick and open test with 2-phenoxyethanol and prick test with Infanrix.

The patient was diagnosed with 2-phenoxyethanol-induced contact urticaria and anaphylaxis. Phenoxyethanol, a colorless oily liquid, is a glycol ether that is commonly used in cosmetics for its antibacterial and antifungal properties. It is increasingly being used in vaccines as a substitute for thiomersal [1] and is also a component of pen inks and more rarely ear drops [2,3]. Moreover, 2-phenoxyethanol is one of the ingredients of Euxyl-K 400, which is widely reported to cause contact dermatitis, although most of the cases have been attributed to methyldibromo glutaronitrile [4]

The nature of the reaction, the cutaneous test results, and the fact that the patient was atopic (*D pteronyssinus* sensitization) all suggest that the reaction could be IgE-mediated, although we did not investigate this possibility.

There are 3 reports of 2-phenoxyethanol-induced contact urticaria in the literature [5,6,7] The presence of specific IgE was investigated in one of them (negative), but the authors did not explain the method employed [7].

This new case of 2-phenoxyethanol-induced contact urticaria is particularly interesting in that it actually led to an anaphylactic reaction. 2-Phenoxyethanol should be considered in cases of contact urticaria with cosmetics and pen ink. We advised our patient to carefully read the labels of all cosmetics before using them and suggested that she perform an open test on a small area of skin in case of doubt. We also advised her to avoid vaccines containing 2-phenoxyethanol since it is unclear how she would tolerate these.

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Manuscript received October 27, 2009; accepted for publication, January 8, 2010.

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