

## Caso Clínico

# DERMITE DE CONTACTO ALÉRGICA AO METILCLORO- E METILISOTIAZOLINONA NUMA CAMA DE ÁGUA?

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**RESUMO** – Descrevemos um caso clínico de dermite de contacto alérgica, grave e generalizada, resultante de contacto com a superfície de cama de água, que estava contaminada pela água do interior que tinha sido tratada pela mistura biocida de metilcloro- e metilisotiazolinona.

**PALAVRAS-CHAVE** – Dermatite de Contacto Alérgica.

## ALLERGIC CONTACT DERMATITIS FROM METHYLCHLORO- AND METHYLISOTHIAZOLINONE IN A WATER BED?

**ABSTRACT** – We here report a case of a severe generalized allergic contact dermatitis from contact with the surface of a water bed which happened to be contaminated with the water inside that had been treated with the biocide mixture of methylchloro- and methylisothiazolinone

**KEY-WORDS** – Dermatitis, Allergic Contact; Thiazoles.

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### INTRODUCTION

The preservative mixture methylchloro- (MCI) and methylisothiazolinone (MI) has been widely used in industrial products since the beginning of the 1980s, however, it is a frequent cause of contact allergic reactions<sup>1-3</sup>.

We here report a case of a severe allergic contact dermatitis from contact with the surface of a water bed which happened to be contaminated with the water inside that had been treated with these biocides.

### CASE REPORT

This concerns a 49-year-old technician in the construction industry with a history of occupation-related epoxy-resin dermatitis who was referred to our Contact-allergy Unit in February 2011. Since early December 2010 he had been suffering from persistent and severe generalized eczematous skin lesions that had started on the right lower leg. Treatment with a cream containing betamethasone dipropionate and fusidic acid had brought some relief but had not prevented general spreading of the lesions, which had led him 4 weeks later to attend the Emergency department of our hospital. He was prescribed systemic antihistamines and advised to further apply the betamethasone dipropionate cream to his entire body and a clobetasone-butyrate containing cream to the face.

When we observed him in February 2011, his lesions had again flared on his lower back, legs and arms, and the hand palms were slightly erythematous and scaling. Because of limited lesion-free space on his back and since he had suspected the use of a new textile detergent (which we did not consider as a potential cause) or contact with epoxy resins, with which he could apparently never fully avoid contact, it was decided to only patch test him to materials relevant to his work. This resulted indeed in positive tests to epoxy-resin as present in the baseline series (Trolab<sup>®</sup>, Hermall Chemie<sup>®</sup>; Reinbek, Germany) (+D2, +D4) and to Bisphenol F epoxy resin (Chemotechnique<sup>®</sup>, Velline, Sweden) (+D2, +D4). He was instructed to strictly avoid direct and airborne contact with epoxy resin and to consult us again for further extensive patch testing.

On June 20th, we still observed nummular lesions on the inner sides of the left forearm and residual pigmentation on his lower legs. The patient was further patch tested with the baseline series (except epoxy resin) and now presented with positive reactions to the biocide mixture MCI/MI (100ppm), MI (500ppm), and methyldibromo glutaronitrile (all from Trolab<sup>®</sup>) (all + at day 2 and 4).



Figure 1

Having provided this information to the patient, he suddenly recalled that in November, one or two weeks before the outbreak of the skin lesions, his wife had opened the plug collector of their water bed (located at the height of his lower legs) in order to evacuate some air from it; during this operation some of the water had been spilled on the surface, which she had wiped off using a dry cloth only. He further explained us that previously (by the end of September) this water had been treated for the first time with two liquid products (each 250ml) for disinfection of an apparent fungal or microbial contamination and to treat the bad odor. Contact with the producer (Karmachemie e.K. Oldenburg, Deutschland) of both products "Stinker Ade"<sup>®</sup> and "Entkeimende Wasserbehandlung"<sup>®</sup> revealed that the MCI/MI mixture was present in both products in a 1-5% concentration. As the water mattress contains 270, 5 liters of water (after adding both products) we estimate that a concentration of 18, 5 to 92, 4 ppm was present on the surface of the water bed.

We could, however, not explain the relevance for the positive reaction to methyldibromo glutaronitrile.

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The patient was advised to again abundantly rinse off the surface of the water bed, after which he remained symptom free until August 2011, except for some minor dermatitis when in contact with certain materials at work.

### DISCUSSION

The accidental contact with MCI/MI in the water from the bed most probably explains the patient's violent and persistent eczematous lesions, with the opening through which his wife had poured these products and had evacuated the air being at the height of the location of the first symptoms, namely his lower legs (after which the lesions had spread to the whole body). He apparently became primarily sensitized through the contaminated mattress since he started to develop his skin lesions about 1 to 2 weeks following the venting procedure.

Explicit warnings about possible irritation and sensitization, and information on measures to be taken when

spilling the product on the skin or into the eyes were clearly written on the label of both products. However, consumers do not always pay much attention to this (his wife had only used a dry cloth to clean the mattress); moreover, it was only after informing the patient that he was allergic to these biocides, that he remembered what had happened to the water bed.

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