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Allergic Contact Dermatitis Caused by Potassium Metabisulfite

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Case Report

A 40-year-old woman, who has never had any skin complaints before in her life, has been employed for the last three months by a pharmaceutical firm. In this job the skin of her hands was in practically continuous contact with solutions of xylocaine, nipagine, teepol and potassium metabisulfite. Patient admitted that she constantly neglected the use of the prescribed rubber gloves. After three months of work in this industry she suddenly developed a typical itching interdigital vesicular eczema of the hands. Cessation of the work and routine eczema treatment resulted in a speedy recovery. Patient resumed the same work with rubber gloves and so far the complaint has not recurred. However, a few months later a minor surgical operation made an injection of xylocaine/adrenaline necessary: 24 hours later the exczema of the hands recurred in full force.

Patch tests were performed with: mere, praec. alb., potassium bichromate, formaldehyde, cobalt chloride, copper sulfate, zinc sulfate, nickel sulfate, aniline, turpentine, phenergan cream, paraphenylenediamine, sulfanilamide, vaniline, ol. lavandulae, ol. bergamottae, neomycine sulfate, chinine sulfate, hydrochinon, ung. jecoris aselli, balsam, peruv., styrax, acid, benzoic, tinctura jodii, hydrazine hydrate and T.M.T.D. All these were negative.

Also negative were: xylocaine 1%, nipagine 0.01%, 1%, 5% in eucerine cum aqua and teepol 1 %.

Positive, however, were the patch test reactions on pot. metabisulfite:

48 h 72 h

pot. metabisulfite 0.5% in aqua (pH 3.4) ++

pot. metabisulfite 1% in aqua (pH 3.9) ++ +++

Control patch tests with the same concentrations on ten other persons were negative.

We have not yet been able to find a description of a similar case in the literature available.

Technical Data

Pot. metabisulfite, K₂S₂O₅ syn.: potassium pyrobisulfite

mol. weight 222.31

478 Λ¹/₈ier, Allergic Contact Dermatitis Caused by Potassium Métabisulfite

This is very extensively used in industry (dyeing of textiles and printing) in disinfectants, in preservatives and in photography.

Local anesthetics which contain adrenaline may also contain pot. métabisulfite in a concentration of 0.5 %. This prevents the oxidation of adrenaline and prolongs the tenability of the solution.

Summary

A description is given of a case of allergic eczema of the hands with positive patch tests of potassium metabisulfite 0.5 % and 1 %. Patient worked in a pharmaceutical firm, had a very extensive contact with this material and had neglected the use of rubber gloves.

Zusammenfassung

Es wird ein allergisches Ekzem der Hände mit positiven Lappchen-proben auf 0,5 und 1 % Kaliummetabisulnt beschrieben. Die Patientin arbeitete in einer pharmazeutischen Firma, wo sie intensiven Kontakt mit diesem Stoff hatte und keine Handschuhe trug.

Resume

L. L'auteur a décrit un cas d'eczéma siégeant sur les mains chez lequel les tests épicutanés étaient positifs au métabisulfite de potassium à 0,5 % et à 1 %. La patiente travaillait dans une fabrique de produits pharmaceutiques où elle entrait fréquemment en contact avec cette substance et avait négligé d'employer des gants de caoutchouc.