MEDICAL MEMORANDA

Cutaneous Necrosis Due to Cetrimide Application

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Reports of necrosis caused by quaternary ammonium compounds, such as cetrimide, are rare. The case is reported of a 77-year-old woman who was admitted to hospital for four months with cutaneous necrosis of the left foot and leg owing to the topical application of cetrimide powder.

Case Report

In April 1973 the patient attended her general practitioner with some eczema on the left pretribal area, which was treated with topical steroids. By July 1973 healing was proceeding satisfactorily, but two weeks later secondary infection developed. This was treated without benefit by Eusol and paraffin. Daily dressings with neat, pure cetrimide powder (B.P.C.) under Melolin non-adhesive dressings held on by a bandage were then undertaken from 15 August until admission on 3 September. The rationale was that a powder with antiseptic properties would both dry the lesion and deal with secondary infection.

On examination there was a green and brown slough of coagulation necrosis extending from the dorsum of the left foot to just below the knee (see photograph). The lesion was odourless and not particularly painful. Sensation in the toes was normal, as were ankle and toe movements. Peripheral pulses were present and the toes were warm.

Investigations.—Repeated bacteriological swabs were sterile, but later secondary infection with Staphylococcus aureus developed. The haemoglobin was 9-6 g/dl, reflecting nutritional anaemia with deficiencies of iron, folate, and vitamin B12. She was patch tested with the standard series of reagents proposed by the International Contact Dermatitis Research Group but the results were negative. Patch tests to benzalkonium 1/1000, cetrimide 1/1000, diphenhydramine, T.C.F., and Dettol also gave negative results.

Course and Treatment.—Her leg healed over four months after debridement and soaks with potassium permanganate and eusal and paraffin. A bout of secondary infection responded to cloxacillin, and the nutritional anaemia responded to haematinics. The leg remained healed after discharge from hospital in December 1973.

Comment

Cetrimide (Cetavlon) is a quaternary ammonium compound consisting of a mixture of alkytrimethylammonium bromides. It is widely used as a sterilizing and detergent fluid, for skin antisepsis, for shampooing the hair, and for instrument cleaning. A related mixture, benzalkonium, is similarly used and can also be used as an algicide in swimming pools, to clean cow sheds and chemical toilets, and as a transport medium for contact lenses. Such uses reflect the antiseptic and detergent properties of quaternary ammonium compounds. These are usually well tolerated by the skin and few reports exist of true allergic contact dermatitis (Huriez et al., 1965).

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References