Contact Dermatitis And The Orthopaedic Patient

By Leonard Hodkinson

A PROBLEM exists on an orthopaedic unit when a patient develops a skin lesion on the surfaces to which skin extensions, for the purposes of traction, have been applied. To cover the lesion with new zinc oxide extensions or attempt to maintain the old adhesive material in position only increases the misery of the patient; yet the traction must be maintained for the sake of the patient's orthopaedic condition.

Contact Dermatitis

This is also known as dermatitis venenata and also occupational dermatitis. It is caused by chemical, vegetable or synthetic materials coming into contact with the skin. It is common among the dermatological patients who attend hospital; in the United Kingdom about ten per cent of such patients are affected. The occurrence is higher in industrial areas than in rural and suburban environment.

Often they are patients who give a previous history of allergy or reaction to contact with medical adhesives, or dyes in clothing or nickel tags and fasteners on under-clothing, or on watch-strap or zippers.

The cause may be one of two forms; irritants or sensitizers. An irritant. This is generally some substance that is either alkali or acid in reaction; this results in a rash which disappears rapidly once the irritant is removed.

A Sensitizer

A sensitizer is the more serious problem and that which concerns the orthopaedic nurse in managing skin extensions. The patient, through a number of exposures to a substance, develops a sensitivity to it. Whenever he comes into contact with it in the future he will react with a severe skin lesion. It can happen that the patient who has skin extensions for traction goes through all the stages for the first time while he is on his treatment. At first he may accept the traction without complaint but, after some days, may react to the sensitizer and find the skin under the adhesive strapping irritable and sore until an obvious skin lesion is visible.

The condition is characterized by itching and irritability of the skin with redness, oedema, the formation of vesicles and bullae. The whole surface in contact with the adhesive tends to erupt.

Alternative Forms

When contact dermatitis occurs the orthopaedic consultant will usually seek the advice of the dermatologist. The treatment for the condition will inevitably be to find an alternative form of skin extension to that which is causing the skin lesion. The alternative forms to Zine-oxide extensions, which most commonly cause contact dermatitis, are classified as follows:

1) Diachylon Adhesive

This is a lead base adhesive mass spread on supporting material. The earliest form of this, before the zinc-oxide adhesives came into common medical usage, was holland strapping. This was used less in orthopaedic nursing when zinc-oxide extension plaster was developed, because it had certain disadvantages. These were:

(a) Heat was required to make it adhesive before application to the skin;
(b) Careful measuring, cutting and sewing were needed to tailor each set of extensions to the individual patient. Diagonal slashes on the edges of each extension were necessary to make it conform to the shape of the limb. Valuable nursing time was thus wasted in this preparation;
(c) Storage was a problem as it was supplied in wide rolls that had to be kept at a low temperature or the material would smell unpleasantly and lose its adhesive properties;

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