

Acknowledgement

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Nickel contact dermatitis due to the needle of an infusion pump, confirmed by microanalysis

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Case Report

A 39-year-old woman, who had had diabetes for 10 years, was treated by permanent infusion of insulin. For 7 months, she had had a painful papulonodular dermatitis at the sites of the needle of the insulin pump; an itchy vesicular eruption spreading over her abdomen was also present. The set for subcutaneous infusion had a small tube and a needle connected to the pump.

Patch tests were performed with the GIRDCA standard series: a positive reaction was observed only to nickel sulfate 5% pet. (+++ D2/+++ D3). As the composition of the needle was unknown, microanalysis was carried out using a Cambridge 360 electron microscope and an EDX spectrometer. This confirmed the presence

of nickel, together with chromium and silica, chlorine, aluminium and potassium as contaminants (Fig. 1).

The dermatitis healed in about 2 weeks when the needle was replaced by a Teflon system, fixed subcutaneously through a metallic mandrel removed immediately afterwards.

Discussion

Allergic contact dermatitis due to nickel in acupuncture needles, multi-injectors and other invasive medical tools has been reported (1–5). Romaguera et al. (4) reported a similar case of sensitization in a young diabetic woman, who developed a papular reaction to nickel of the butterfly needle of an insulin infusion pump. In our case, the spectrometric demonstration of nickel confirmed the suspected diagnosis of allergic contact dermatitis.

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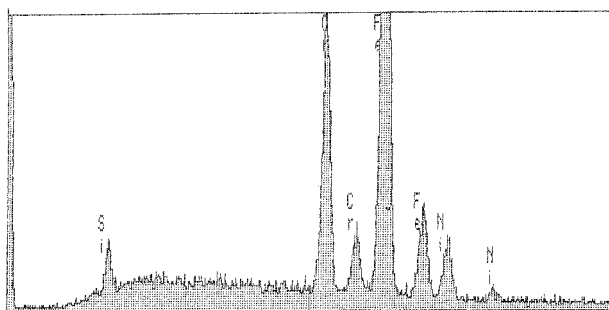


Fig. 1. Spectrometry map revealing the presence of nickel in the needle.