

Short Communication

Contact allergy to a single-patient-use electrosurgical earthing plate

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Prior to this case, the only contact allergy that we were aware of from electrosurgical earthing plates was to nickel (1).

Case Report

A 42-year-old woman underwent an aesthetic surgery rhytidectomy (face lift) under general anaesthesia. She was not atopic, nor had she ever suffered from allergic diseases. The day following surgery, a rectangular itchy, erythematous-exudative lesion arose on the right thigh, in perfect correspondence with the site of application of a single-use electrosurgical earthing plate (Niko Medical Products, Rødovre, Denmark). The contact area was about 270 cm²; the contact time 1.5 h. The lesion resolved completely after 1 week of topical corticosteroid treatment. Patch tests with the GIRDCA standard series were positive for nickel sulfate, but the dimethylglyoxime spot test was negative. We were not able to obtain detailed product analysis data from the manufacturer. The patient refused patch testing with non-standard additional substances, as well as a plate reapplication challenge test.

Comment

Single-patient-use electrosurgical plates are made up of foil backed by a polyurethane foam sheet. The area of the polyurethane support is wider than that of the foil. One side of the plate is coated with a layer of conductive

adhesive, which keeps the whole device in close contact with the skin to avoid burns due to high current density during the electrosurgical procedure.

3 explanations of our case seemed possible.

(i) iontophoretic diffusion of a metallic allergen present in the foil beyond the contact area, due to the flux of electric current;

(ii) presence of an unidentified allergen in the polyurethane foam;

(iii) presence of an unidentified allergen in the adhesive.

This last interpretation seemed the most likely, as both the polyurethane border and the central foil shared the adhesive coating, and the central area (i.e., the area corresponding to the foil) was not spared. Following submission of this report, we were informed by the Editor of 2 recent reports confirming our suspicions (2, 3).

References

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