

Key words: allergic contact dermatitis; metals; patch test.

We describe a case of allergic contact dermatitis to nickel occurred after skin application of a commercial piezoelectrical medical device widely used to relief itching after mosquito bites.

Case Report

The patient is a 32-year-old woman, with a 2-day history of an intensely itching dermatitis of the right ankle. 3 days before, a mosquito's bite had caused the sudden appearance of an erythematous and edematous plaque. In the attempt to reduce the inflammation and to relief the itch, she repeatedly applied a piezoelectrical medical device called 'Click®' (Tecnimed srl, Vedano Olona-Varese, Italy) (Fig. 1) on the skin lesion. After a few hours, erythema and oedema enhanced, vesicles developed and itching became worse and worse while she increased the frequency of applications, thinking to a natural course of the insect bite reaction.

At dermatological examination, a roundish, 10 cm in diameter, inflam-

matory plaque with severe erythema, oedema, and vesiculation was seen on the right ankle. Twice daily application of a mild corticosteroid cream allowed the complete healing of the skin lesion within a week.

Patch testing with the 'standard series' (F.I.R.M.A., Florence, Italy) according to SIDAPA (Società Italiana di Dermatologia Allergologica Professionale e Ambientale) guidelines (1) elicited a strong positive reaction (++++) to nickel. Fragments of the plastic and metallic parts of the scaffold of 'Click®' were applied separately on the volar surface of the forearm and only the metallic parts elicited an intensely (++++) positive reaction. Afterwards, the company Tecnimed srl declared that this part was made with nickelated brass.

Discussion

This is the first case-report of an allergic contact dermatitis to nickel contained in a medical device that is having a growing commercial success as a non-drug treatment for insect bite reactions. The device contains quartz crystals in a metallic and plastic scaffold and generates a

Allergic contact dermatitis from nickel in a piezoelectrical device for mosquito bites ('Click®')

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Fig. 1. Piezoelectrical medical device ('Click®') for mosquito bites with terminal pointed metallic parts containing nickel.

high-voltage low-amperage piezoelectrical discharge when it is pressed on the skin surface. The consequent shut-down of local vessels by electrospasm (2–4) leads to the quick improvement of inflammation and relief of pain and itching.

The hazard of allergic contact dermatitis to nickel is not mentioned in the leaflet and therefore the present patient repeated more and more the applications in order to control the progressive impairment of the itchy dermatitis that she misunderstood as an evolution of the insect bite reaction.

In conclusion, we report that this widely used piezoelectrical medical device contains nickel and that its use may be particularly dangerous for nickel sensitive people because they may keep on the applications misunderstanding the onset of the contact dermatitis as a normal course of the insect bite.

References

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