

The Case of the Mercury Heart

Magic must keep an important place in every-day life, even among youngsters, if cases like the one we describe here can still be observed.

CASE REPORT

A 25-year-old woman, without any history of atopy, was seen for an acute, intensely pruritic dermatitis which had begun on her presternal area and had rapidly spread. On examination, she exhibited an erythematous-pustular dermatitis which was particularly severe on the cardiac, presternal and submammary areas, abdomen, groins (Fig. 1) and midback. No systemic symptoms were present.

She referred that the rash had developed a few hours after wearing a small heart-shaped cloth amulet (Fig. 2) inside the left cup of her bra. The "heart" contained a few grains of rice, pieces of laurel leaves and droplets of metallic mercury taken from a dental amalgam. No history of previous medications with mercurochrome or other mercurials was obtained.

Blood and urinary laboratory tests were normal, but the urinary mercury concentration, analyzed by atomic absorption spectroscopy, was 1 $\mu\text{g/l}$ (50 $\mu\text{g/l}$ is the limit for professional exposure).

Histopathology of a lesion showed slight spongiosis, edema of the papillary dermis and a superficial perivascular, lymphocytic and neutrophilic infiltrate.

Topical corticosteroids and oral antihistamines cleared the eruption in a few days.

Two weeks later, patch tests with the Italian standard series (GIRDCA) (including thymerosal) yielded negative results. Patch tests with a mercurial series revealed, at 48 h, a positive reaction to ammoniated mercury (1% in petrolatum) (+++) and metallic mercury (0.5% in petrolatum) (++). Mercuric chloride (0.05% in water) and phenylmercuric acetate (0.01% in water) reacted weakly (+). In addition, an erythematous and pustular reaction developed the day after in the patch test site and spread to her groins and abdomen. As the patient treated herself with topical and oral corticosteroids, no reliable further readings of the patch tests were possible.

COMMENT

Metallic mercury is promptly absorbed through the skin, both as a metal and vapour. Especially when applied under occlusion at body temperature, it may cause a generalized rash, particularly in patients sensitized to topical drugs containing mercurials (1).

According to Nakayama et al. (2), the mercuric exanthem appears a day or two after contact with metallic mercury. Usually, contact occurs during a dental treatment or because of a broken clinical thermometer. A previous sensitization to organic mercury (often mercurochrome) is common. The clinical picture is typical, including a symmetrical erythema on the major flexures with a V-shaped erythema on the upper antero-medial

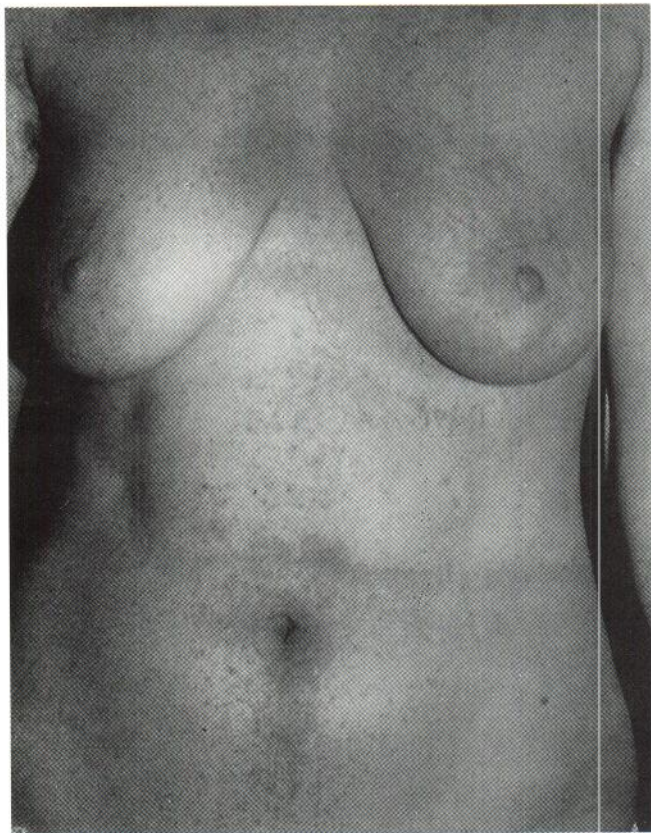


Fig. 1. Clinical features of the patient.

thighs, recalling the "baboon syndrome" (3). Severe cases show pustules or purpura. Systemic symptoms and fever may be present. Histopathology shows spongiosis and a superficial perivascular infiltrate of lymphocytes and neutrophils or a sub-corneal pustule.

In our patient, the exanthem was clinically and histologically similar to the one reported by Nakayama et al. The Japanese authors consider it as a systemic contact dermatitis caused by

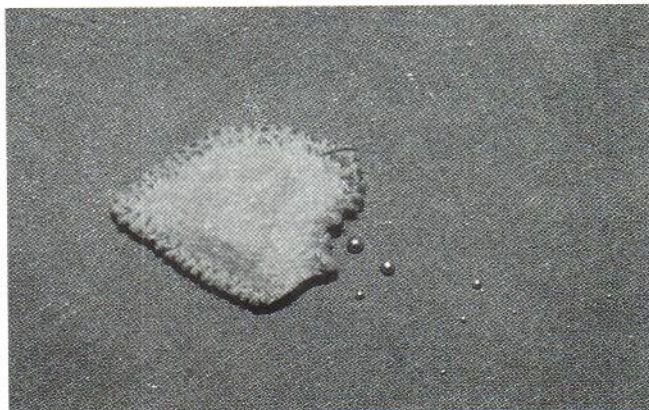


Fig. 2. The amulet.

inhalation of mercury vapours. Indeed, our patient had an allergic contact dermatitis, as the positive results of patch tests suggest. However, two points differ from Nakayama et al.'s report: the particular severity of lesions where the amulet had been applied and, especially, the widespread eruption that followed patch-testing. They suggest that the transcutaneous absorption is also important to explain generalization.

REFERENCES

1. Gerstner HB, Huff JE. Selected case histories and epidemiologic examples of human mercury poisoning. *Clin Toxicol* 1977; 11: 131-150.
2. Nakayama H, Niki F, Shono M, Hada S. Mercury exanthem. *Contact Dermatitis* 1983; 9: 411-417.
3. Andersen K, Hjorth N, Menné T. The baboon syndrome: systemically-induced allergic contact dermatitis. *Contact Dermatitis* 1984; 10: 97-100.

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