

Baboon syndrome from mercury showing leukocytoclastic vasculitis on biopsy

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Abbreviations:

BS: baboon syndrome

SAD: systemic allergic dermatitis

SDRIFE: symmetrical drug-related intertriginous and flexural exanthema

LCV: leukocytoclastic vasculitis

NACDG: North American Contact Dermatitis Group

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Baboon syndrome (BS) is a distinctive type of systemic allergic dermatitis (SAD) with acute onset, marked symmetric erythema on the buttocks, inner thighs and inner arms following oral or parenteral exposure to a contact allergen. The adverse drug reaction known as SDRIFE (symmetrical drug-related intertriginous and flexural exanthema) has similar features.¹ The precise nosology of both conditions is a matter of debate. The histopathology of BS and SDRIFE is variable, typically showing a superficial perivascular lymphohistiocytic infiltrate with occasional neutrophils and eosinophils.² We present a case of BS from mercury showing leukocytoclastic vasculitis (LCV) on biopsy.

CASE REPORT

A 41-year-old healthy female chef had taken one dose of naproxen one week prior for mild headache, but no other medications. To rule out fever, she measured her temperature with a mercury thermometer which was unfortunately cracked, and she recalls ingesting a tiny amount of mercury. A day later she developed an extensive burning and pruritic rash, and she presented to the Emergency Room. On examination, she was afebrile and intense erythema with some edema in a symmetric distribution on her buttocks, inner thighs, groins, lower abdomen, breasts, axillae and inner arms was noted. Purpura and vesicles were absent (Fig. 1A). She denied any systemic symptoms and had no neutrophilia on her complete blood count. A diagnosis of BS from mercury was favored, with a differential diagnosis of SDRIFE from naproxen.

Skin biopsy from the right medial thigh, rather unexpectedly, showed an intense perivascular neutrophilic infiltrate in the upper dermis with fibrinoid necrosis of small vessels, red blood cell extravasation and karyorrhexis (Fig. 2). The epidermis was normal. She was treated with prednisone 40mg daily tapered over three weeks and made a very prompt recovery (Fig. 1B).

She was later patch tested on her back in accordance to the NACDG protocol to the NACDG standard screening series, textiles, hair dyes, select medicaments and metals. Results interpreted at day 4 showed ++ reactions to mercury 0.5%, mercuric chloride 0.1% and mercury ammonium chloride 1%, each in pet. Naproxen 30% pet. and thiomersal were negative.

DISCUSSION

The source of our patient's initial cutaneous sensitization to mercury is speculative and could have been from use of topical products or medicaments.¹ In 1983, Nakayama et al reported a series of patients who developed burning petechial rashes in their flexural regions after ingesting mercury and coined the term "mercury exanthem".³ Subsequently the term "Baboon Syndrome" was proposed for this rash in view of the bright red buttocks often seen. The pathomechanism was attributed to SAD, and the reaction was typically seen with metals like nickel and mercury, confirmed on patch testing.⁴ However, an identical rash was also seen with oral or parenteral

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medication, and in 2004, Häusermann et al proposed the term SDRIFE to distinguish it from BS. Patch tests are not always confirmatory in SDRIFE.³

Both BS and SDRIFE are clinical diagnoses, not always subjected to histopathologic confirmation. To our knowledge LCV has not been reported in classic cases of BS. Our patient did not have additional clinical features of small vessel vasculitis, so we propose that LCV be included in the histopathologic spectrum of BS.

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Fig. 1. (A) Bright red, symmetric, well-demarcated, edematous plaques on abdomen and medial thighs (B) Prompt resolution after two doses of oral prednisone 40mg

Fig 2. Intense perivascular neutrophilic infiltrate in the papillary and upper reticular dermis accompanied by red blood cells extravasation, focal fibrinoid necrosis and karyorrhexis. Overlying epidermis unremarkable with basketweave orthokeratosis (hematoxylin and eosin stain).



