

Baboon syndrome and segmental vitiligo coexistence

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The baboon syndrome is a form of systemic contact dermatitis with skin eruptions in the area of the buttocks and major flexures. Inhalation of mercury vapor causes this rare but distinctive eruption. Broken thermometers are the usual sources of exposure. We hereby present a 14-year-old boy diagnosed with baboon syndrome coexistence with vitiligo, due to broken thermometers. In our case, it was interesting that erythematous eruptions were more evident on the vitiliginous side of the trunk. To our knowledge, there have been no reports in the literature of baboon syndrome and vitiligo coexistence.

Key words: baboon syndrome, systemic contact dermatitis, mercury, vitiligo.

Baboon syndrome is a systemic contact dermatitis with typical clinical features that usually occurs in mercury-sensitive patients after inhalation of mercury vapor from a broken thermometer^{1,2}. Baboon syndrome seems to be more common in childhood². The main clinical findings include a sharply defined symmetrical erythema of the gluteal area and in the flexural or intertriginous folds without any systemic symptoms or signs. Patients have specific skin eruption resembling the red gluteal area of baboons. Baboon syndrome has occurred after systemic or local administration of contact allergens and in response to certain drugs³. We herein report a case of baboon syndrome coexistent with segmental vitiligo due to inhalation of mercury vapor.

Case Report

A 14-year-old boy was referred to us with an itchy, bright maculopapular erythematous rash, symmetrically distributed in the buttocks, genital area and thighs, right axilla, right antecubital and popliteal fossae, inner side of right wrist, and especially on the right side of the trunk. He had segmental vitiligo on the right thoracolumbar region. There were also erythematous maculopapular lesions on the hypopigmented area. It was interesting that there were a few skin eruptions on the left side of the trunk (Figs. 1, 2).

The patient, whose medical history was otherwise unremarkable, denied systemic symptoms, and had not taken any medications

before the onset of the eruption. His history revealed inhalation of mercury vapor from a broken thermometer and subsequent contact with his hands. The typical rash appeared three days after the breaking of the thermometer. Three years ago, he had similar erythematous eruption symmetrically distributed in the anogenital area and thighs after intralesional corticosteroid injections.

A complete blood cell count revealed an elevated eosinophil count ($5.3 \times 10^3/\mu\text{L}$, reference range, $0.9-2.9 \times 10^3/\mu\text{L}$). Routine laboratory examination revealed no abnormality except eosinophilia.

The clinical characteristics of the erythema were highly suggestive of baboon syndrome. The eruptions cleared in one week after systemic corticosteroids and antihistamines. Patch tests



Fig. 1. Bright maculopapular erythematous rash on the trunk and segmental vitiligo lesions.



Fig. 2. Symmetrically distributed rash on the thighs and inguinal area and buttocks.

with the European standard series, preservatives and antimicrobial series performed six months after healing of the lesions gave a strong (+++) allergic reaction at 2 and 3 days to phenylmercuric acetate (0.05% pet.) and (++) allergic reaction at 2 and 3 days to ammoniated mercury (1% pet.) (Fig. 3). Thiomersalate (0.1% pet.) was negative at 2 and 3 days.

Discussion

A syndrome of striking, bright erythema of the buttocks combined with dermatitis in flexural areas has been termed "baboon syndrome". Inhalation of mercury vapor causes this rare but distinctive eruption. Broken thermometers are the usual source of exposure; however, application of mercury-containing creams, topical antiparasitics, or antiseptics may also provoke this reaction^{1,4}.

Baboon syndrome has been defined on the basis of its characteristic clinical pattern, which comprises an acute generalized exanthem



Fig. 3. (++++) allergic reaction to phenylmercuric acetate and (++) allergic reaction at 3 days to mercury ammonium chloride.

appearing one or two days after the breaking of a clinical thermometer, and with particular involvement of the buttocks, anogenital area, and major flexures. A V-shaped erythema on both upper anteromedial thighs is also a common feature. Pustular and bullous cutaneous lesions, fever, malaise, and eosinophilia have also been reported in some cases².

The eruption usually reaches a peak between the second and fifth days after exposure to the allergen by ingestion, inhalation, or injection⁵. It can be triggered by various allergens. Several drugs have been previously described as being responsible for the baboon syndrome origin. Mercury is the most frequently implicated agent; others include nickel, different antibiotics, such as ampicillin, amoxicillin, erythromycin, and roxithromycin, heparin, aminophylline, pseudoephedrine, ethylenediamine, terbinafine, and immunoglobulins^{3,6,7}.

Vitiligo is a common dermatological disorder characterized by the presence on the skin of depigmented macules resulting from the destruction of cutaneous melanocytes. Currently, the exact etiology of vitiligo remains obscure, but many factors have been implicated in the development of the disease. Many studies have indicated a role for both cellular and humoral immunity in the pathogenesis of vitiligo⁸. Based on human and animal experiments, it appears that both the humoral and the cellular immune systems are activated in systemic contact dermatitis. The histopathology in the flare-up reactions is similar to that seen in ordinary

contact dermatitis, but the accumulation of neutrophils in the baboon syndrome suggests the presence of circulating immune complexes. Flares at sites of previous dermatitis are probably caused by specifically sensitized T cells, either resting at the site or homing to the area after specific hapten exposure. Baboon syndrome is probably caused by systemic cytokine release (9). In our case, erythematous eruptions were more evident on the vitiliginous side of the trunk. To our knowledge, there has been no report of vitiligo and baboon syndrome coexistence in the literature. Coexistence of vitiligo and baboon syndrome, which possess a prominent immunological component in their pathogenesis, may offer a clue as to their causation. Coexistence of baboon syndrome and vitiligo may be a coincidence. The exact nature of this relationship is not clear.

Because of the typical clinical presentation, diagnosis may be made at first glance. It should always be taken into account when facing the differential diagnosis of acute exanthem in children. Patch tests are considered the best diagnostic procedure for allergen identification. Patients who have positive medical history have to be considered for patch testing to determine any allergen that may be the cause of such erythematous eruptions.

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