

# Symmetrical Drug-related Intertriginous and Flexural Exanthema (Baboon Syndrome)

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## ABSTRACT

Baboon syndrome, also called symmetrical drug-related intertriginous and flexural exanthema (SDRIFE), is an erythematous maculopapular rash that presents in skin folds in a symmetrical pattern. This condition may develop after the patient starts a particular agent. Treatment consists of stopping the associated trigger and medicating with topical or systemic corticosteroids.

A 30-year-old man with odynophagia, otalgia and fever was prescribed amoxicillin. He developed erythematous and pruriginous lesions in the cubital fossa and inguinal regions. He attended the emergency department (ED) where he was prescribed penicillin. Lesions continued to progressively worsen with a bilateral symmetrical pattern in the axillary region and later in the nape folds, popliteal regions, and on the perineum and buttocks. The patient presented to the ED for a second time, where he was diagnosed with baboon syndrome and prescribed topical steroids with clear improvement.

## LEARNING POINTS

- It is important to identify adverse drug effects.
- Baboon syndrome is rare and secondary to the use of particular drugs.
- The diagnosis is based mainly on the patient's clinical presentation.

## KEYWORDS

Baboon syndrome, symmetrical drug-related intertriginous and flexural exanthema, amoxicillin, penicillin

## CASE DESCRIPTION

A 30-year-old man with no relevant medical history and no previous allergies, attended his physician with a 2-day history of odynophagia, otalgia and fever. He was prescribed amoxicillin 1 g. On the same day, he presented an erythematous and pruriginous lesion first in the cubital fossa region and later in the inguinal region (approximately 12 hours after first taking the antibiotic). He went to the emergency department (ED) where he was prescribed a single dose of penicillin 1,200,000 IU. The skin reaction was interpreted in the context of allergy to an excipient. However, during the following days, the lesions continued to worsen in the inguinal and cubital fossa regions, and expanded bilaterally to the axillary region. The patient maintained odynophagia and fever (39.3°C), which again prompted him to attend the ED. On admission, he was afebrile, presenting a reddish oropharynx and purulent spots on the tonsils, and erythematous lesions on the nape folds, axillae, cubital fossae, popliteal regions, perineum and buttocks (the lesions did not affect the penis or the scrotum). The cubital fossa folds (*Fig. 1*) and inguinal folds (*Fig. 2*) also presented serous and haemorrhagic exudate vesicles, with no signs of infection. Analytically, the patient presented leucocytosis 12,600/μl with neutrophilia 9,900/μl and elevation of C-reactive protein to 143 mg/l.

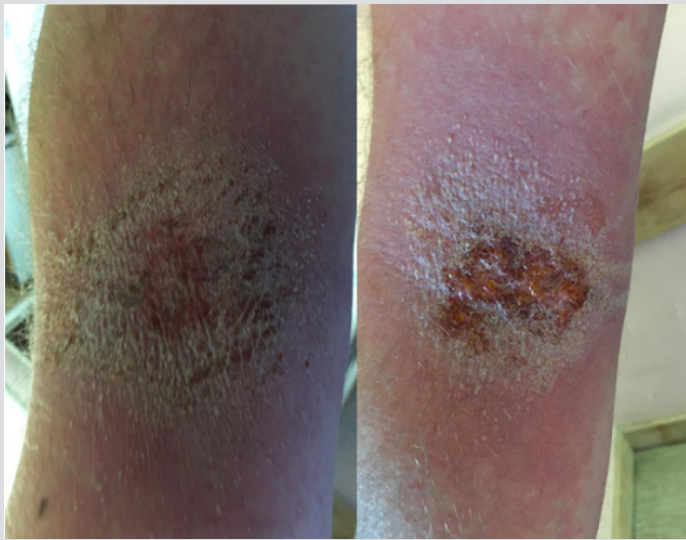


Figure 1. Rash on the cubital fossa



Figure 2. Rash in the inguinal folds

The patient was admitted to the Internal Medicine department and evaluated by a dermatologist, who diagnosed a symmetrical drug-related intertriginous and flexural exanthema (SDRIFE), also known as baboon syndrome (Fig. 3). The erythematous areas were treated with betamethasone and the ulcerated areas with fusidic acid. The patient showed clinical improvement (Fig. 4) with no fever during hospitalization and was discharged on the fourth day.



Figure 3. Rash on the buttocks

## DISCUSSION

Baboon syndrome, also called SDRIFE, is a maculopapular rash secondary to a rare type IV hypersensitivity reaction. The term baboon syndrome is used because the patient's buttocks rash resembles a baboon's buttocks<sup>[1]</sup>. The rash is usually erythematous, symmetrical and occurs mainly in the skin folds. It is not known why it mainly affects skin folds<sup>[1, 2]</sup>. This condition may develop 5–14 days after the administration of a particular agent (for example an antibiotic such as penicillin), or even earlier (3–7 days) if the host has been previously exposed<sup>[2]</sup>.

After other causes of rash have been excluded, the diagnosis is based mainly on the patient's clinical presentation. Some authors refer a controlled drug-provocation test as the gold standard for diagnosis, however, there is no interest in the acute phase of the disease<sup>[1]</sup>.

Many agents are related to this syndrome, such as biological and chemotherapeutic agents, for example clozapine, omeprazole, mercury, nickel and fragrances<sup>[1, 3]</sup>. However, penicillin is the drug most associated with this syndrome<sup>[1]</sup>.



Figure 4. Resolving rash in the inguinal folds (A) and on the cubital fossa (B)

Baboon syndrome or SDRIFE should be considered when a patient presents a symmetrical erythema in a great flexure or on the buttocks without systemic symptoms. Usually, the mucosal surfaces and the face are not affected. This syndrome can occur within hours or days after re-exposure to the trigger, and is seen predominantly in males [1].

The criteria for the diagnosis of a SDRIFE proposed by Häusermann et al. are: (a) exposure to a systemically administered drug either at the first or repeated dose; (b) sharply demarcated erythema in the gluteal area and/or V-shaped erythema in the inguinal/perigenital area; (c) involvement of at least one other intertriginous/flexural location; (d) symmetry of the affected areas; and (e) absence of systemic symptoms and signs [4–6].

The histology of baboon syndrome lesions presents a superficial perivascular infiltrate of CD3 and CD4 T-cells in the dermis. In some cases, subcorneal pustules can appear [1].

Penicillin-derived antibiotics are commonly used in our clinical practice, so it is important to recognize the associated complications and side effects, specifically dermatological complications, as in this case [2]. The penicillin and their derivatives' structures most frequently involved in allergic reactions are the  $\beta$ -lactam ring, the side chains or the thiazolidine ring. More infrequently, certain additives cause allergic reactions [6].

Treatment consists of stopping the associated trigger (antibiotic), and medicating with topical or systemic corticosteroids. Symptoms usually resolve within days to 3 weeks [1,2,6].

Baboon syndrome is a rare entity. It is important to recognize this clinical diagnosis and suspect drug iatrogenesis, as it is usually caused by penicillin and its derivatives. In this case, allergy to additives was also suspected, but as reported in the literature, allergic reactions are even rarer. The patient in this case recovered quickly after topical treatment.

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