

# Autoeczematization Id reaction following candidal diaper dermatitis

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## ABSTRACT

Id reactions are secondary inflammatory reactions that develop from a remote, localized immunological insult. They may be caused by various fungal, bacterial, viral, and parasitic infections. Diaper dermatitis with psoriasiform Id eruptions is a rarely reported phenomenon. Herein, we report the case of an infant who developed candidal diaper dermatitis followed by generalized psoriasiform Id eruptions. Most authors report the resolution of diaper area lesions with topical antifungals with or without steroids and Id eruptions with topical steroids alone. Our patient showed complete resolution of all lesions with oral fluconazole alone.

**Key words:** Id reaction; Candidal rash; Diaper dermatitis; Psoriasiform ID; Fluconazole

## INTRODUCTION

Id reactions exhibit multiple clinical presentations, including localized or widespread vesicular lesions, maculopapular or scarlatiniform eruptions, erythema nodosum, erythema multiforme, erythema annulare centrifugum, Sweet's syndrome, guttate psoriasis, and autoimmune bullous disease. The mechanisms underlying Id reactions vary depending on the type of clinical presentation. Fergusson et al. studied 52 cases of diaper dermatitis with psoriasiform Id eruptions and found *Candida albicans* to be a causative agent [1]. Other causes include infantile seborrheic eczema, psoriasis, atopic dermatitis, and ammoniacal diaper dermatitis [2]. The patient initially presents with intensely erythematous, papulo-squamous eruption with satellite lesions and pustules. A secondary generalized psoriasiform eruption occurs days to weeks later.

## CASE REPORT

A six-month-old infant presented with a one-week history of multiple reddish, scaly skin lesions in the

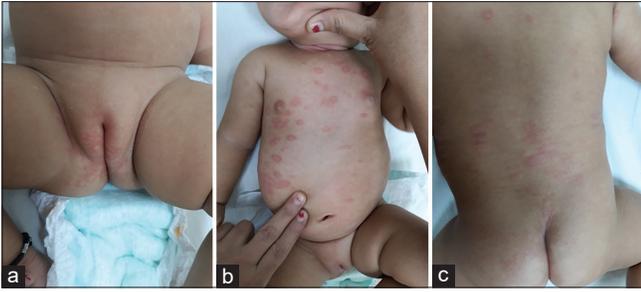
trunk area. An inspection of the diaper area revealed multiple reddish, moist, elevated skin lesions. No history of atopy or psoriasis was present in the family members. An examination revealed a well-defined area of intense erythema and papules with some satellite papules around the larger lesion in the diaper area also involving the groin folds (Fig. 1a). Similar lesions were also present in the neck fold area. Multiple well-defined erythematous plaques with loosely adherent white scales were seen in the trunk area (Figs. 1b and 1c). A potassium hydroxide (KOH) examination of the diaper and neck fold area revealed budding yeast cells suggestive of *Candida albicans*, whereas the trunk lesions showed no fungal elements (Fig. 2).

Routine blood investigations were done and returned normal. The patient was treated with oral fluconazole at a dose of 6 mg/kg of body weight for ten days. The lesions in the diaper area, neck folds, and trunk resolved completely with post-inflammatory hypopigmentation in ten days with no subsequent reoccurrence (Figs. 3a and 3b).

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**Figure 1:** (a-c) Multiple well-defined, erythematous plaques with loosely adherent white scales present in the anterior and posterior trunk. Involvement of the neck fold and diaper area with erythema.



**Figure 2:** Potassium hydroxide (KOH) examination of the diaper and neck fold areas revealing budding yeast cells suggestive of *Candida albicans*.



**Figure 3:** (a and b) Post-treatment pictures of the complete resolution of the psoriasiform lesions leaving post-inflammatory hypopigmentation

## DISCUSSION

Diaper dermatitis is a common condition, especially among newborns and infants. It is an irritating and inflammatory acute dermatitis of the perineal and perianal areas resulting from occlusion and irritation caused by diapers. Diapers create particular conditions of moisture and friction, and with urine and feces come increased pH and irritating enzymes (lipases and proteases) [3]. Fungi may take advantage of all these factors to cause infection. *Candida* yeasts, especially

*Candida albicans*, are responsible for the most frequent secondary infections.

Early irritant dermatitis is characterized by erythema, mild maceration, and edema, while *Candida* diaper dermatitis (CDD) is characterized by erythematous and scaly plaques with maceration and edema, sometimes with satellite pustules or papules, the latter being the most characteristic feature of *Candida* infection [4]. Erosion and ulceration may occur in severe cases.

**Id** reaction is also known as an *auto eczematous response*, as there must be an identifiable initial inflammatory or infectious skin problem that leads to generalized eczema. Josef Jadassohn, a German dermatologist who coined the term **Id**, observed a dermatophytosis infection causing secondary allergic skin dermatitis [5]. Alex et al. observed infants who developed erythema multiforme and psoriasiform-type **Id** reactions due to a *Candida spp.* infection in the diaper area [6]. Fergusson et al. studied 52 cases of diaper dermatitis and napkin dermatitis that later evolved into disseminated psoriasiform **Id** eruptions [1]. One of the definite causes was attributed to *Candida albicans* in these cases. Other causes included infantile seborrheic eczema, psoriasis, atopic dermatitis, and ammoniacal diaper dermatitis.

Rattet et al. studied two cases of diaper dermatitis with the subsequent presence of generalized, papulosquamous, scaly lesions. Biopsies from these lesions showed psoriasis-like histological features [2]. Another such case was studied by Balasubramanian et al., in which a post-ureterostomy infant on prolonged antibiotic therapy developed candidal diaper dermatitis followed by generalized psoriasiform **Id** eruptions [7].

Due to paucity of literature on the topic, we report a case of an infant who presented with generalized skin lesions resembling psoriasis clinically, with the simultaneous presentation of candidal diaper dermatitis. Most authors report the resolution of diaper area lesions with topical antifungals with or without steroids and **Id** eruptions with topical steroids alone [8]. Our patient showed complete resolution of all lesions with oral fluconazole alone.

## Consent

The examination of the patient was conducted according to the principles of the Declaration of Helsinki.

The authors certify that they have obtained all appropriate patient consent forms, in which the patients gave their consent for images

and other clinical information to be included in the journal. The patients understand that their names and initials will not be published and due effort will be made to conceal their identity, but that anonymity cannot be guaranteed.

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