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Tinea Corporis in an infant mimicking acrodermatitis enteropathica

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A 5-month-old female infant presented with widespread periorificial erythematous plaques suggestive of acrodermatitis enteropathica. The patient was in good condition without any systemic complaints and/or relevant past medical history. Mycological culture revealed Microsporum canis and complete clearance of lesions was achieved with systemic fluconazole. This case is presented to emphasize that dermatophytoses should be borne in mind in healthy infants presenting with widespread erythematous eruptions.

Keywords: tinea; microsporum; infant; acrodermatitis enteropathica; fluconazole

INTRODUCTION

Dermatophyte infections can mimic many systemic diseases. When extensive erythematous lesions present in infants, differential diagnoses including neonatal lupus, psoriasis, and candidiasis should be considered. Here we present a case of tinea corporis resembling acrodermatitis enteropathica.

CASE REPORT

A 5-month-old female infant presented with widespread scaly erythematous plaques of one-month duration. Brightly erythematous eroded lesions were located on periorificial and intertriginous areas. The color and distribution of the lesions were reminiscent of acrodermatitis enteropathica (Figures 1-3). The patient was in good condition without any systemic complaints and/or relevant past medical history. Routine laboratory investigations were within the normal limits. Plasma zinc levels could not be determined due to unavailability. Although direct microscopic evaluation revealed no hyphae, mycological cultures of the lesions were carried out to reveal *Microsporum canis*. A diagnosis of widespread tinea corporis was made. Treatment with 1 mg/kg/day oral fluconazole resulted in complete clinical clearance of the lesions in two weeks (Figure 4). Follow up cultures were not performed. Upon questioning, there was no contact with animals and the family denied the presence of similar lesions in another member. Topical methylprednisolone acetate had been prescribed by another physician for initial lesions, which, we believe, eased the widespread distribution of the fungus.

DISCUSSION

Dermatophytoses due to *Microsporum canis* are frequently encountered in dermatology practice. In a study where 2314 confirmed dermatomycoses in patients under 16 years were reviewed, *Trichophyton violaceum* (54.1%) and *Microsporum canis* (24.5%) were the most commonly identified organisms (1). Tinea corporis due to *Microsporum* species has been reported in infants including neonates as young as 25- and 45-day-old (2, 3). A high index of suspicion is necessary in infants. Factors causing atypical presentations and missed diagnoses include the use of corticosteroids, variability in dermatophyte invasive capacity, site of invasion, excessive washing, and sun exposure (4).

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FIGURE 1. Periorificial erythematous plaques

FIGURE 2. Erythematous plaques in the submandibular area

FIGURE 3. Erythematous scaly plaques in the diaper area

FIGURE 4. Complete clearance after antifungal treatment

In the treatment of extensive tinea corporis, topical antifungal agents are not recommended as primary therapy (2). Fluconazole has been reported to be more effective than terbinafine in the treatment of tinea capitis due to *Microsporum canis* (5). Although similar comparative studies on tinea corporis are lacking, it has been stated previously that fluconazole is an effective, well-tolerated antimycotic agent active against tinea corporis (6).

Acrodermatitis enteropathica is a rare autosomal recessive disorder characterized by acral and periorificial dermatitis, alopecia and diarrhea (7). Acrodermatitis enteropathica usually presents in infancy within days if an infant is bottle-fed and days to weeks after weaning in breast-fed infants (8). In one study, the age at onset of symptoms of acrodermatitis enteropathica ranged from 15 days to 12 months (mean 6.86 months) (9). Acrodermatitis enteropathica presents with eczematous pink scaly plaques, which can become vesicular, bullous, pustular, or desquamative. The lesions develop over the extremities, anogenital and periorificial areas. Without treatment, skin lesions slowly evolve into erosions and patients develop generalized alopecia and diarrhea (8). It should be noted that the diagnosis of acrodermatitis enteropathica may not always be straightforward, since the complete presentation is seen in only 20% of patients and that there may be no significant relation between plasma zinc levels and clinical features (9).

Acrodermatitis enteropathica-like syndrome, on the other hand, is an entity that includes acquired zinc deficiency (e. g., low zinc concentration in breast milk) and acrodermatitis enteropathica-like eruption (AELE). Many metabolic disorders, such as methylmalonic acidemia, propionic acidemia, maple syrup urine disease, glutaric aciduria type I, ornithine transcarbamylase deficiency and citrullinemia, may present with AELE, which is unrelated to zinc deficiency. The term "acrodermatitis dysmetabolica" has been proposed by *Tabanlioglu et al*. (10).

Diagnosing tinea corporis in an infant with extensive presentation, without any similar lesions in close contacts requires a high index of suspicion. In our case, the dermatological picture of brightly erythematous eroded plaques in a periorificial distribution prompted us to include acrodermatitis enteropathica and AELE in the differential diagnosis. We believe that previously prescribed topical corticosteroids might have caused the lesions to spread to such an extent. In conclusion, dermatophytoses presenting as erythematous scaly plaques in infants, especially when extensive, may divert the physician to more severe systemic diseases and should not be overlooked.

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SAŽETAK

Tinea Corporis slična enteropatskom akrodermatitisu u dojenčeta

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Petomjesečno žensko dojenče imalo je rasprostranjene eritematozne plakove oko tjelesnih otvora, koji su ukazivali na enteropatski akrodermatitis. Opće stanje bolesnice bilo je dobro, bez sistemskih poremećaja i/ili relevantnih podataka u anamnezi. Mikološka kultura otkrila je Microsporum canis pa je sistemska terapija flukonazolom dovela do potpunog povlačenja tih promjena. Svrha ovoga prikaza slučaja je naglasiti kako valja misliti na dermatofitoze kod zdrave dojenčadi s rasprostranjenim eritematoznim promjenama.

Ključne riječi: tinea; microsporum; dojenče; enteropatski akrodermatitis; flukonazol