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Inverse Psoriasis Mimicking Tinea Cruris in an 11-year-old Boy: A Diagnostic Pitfall

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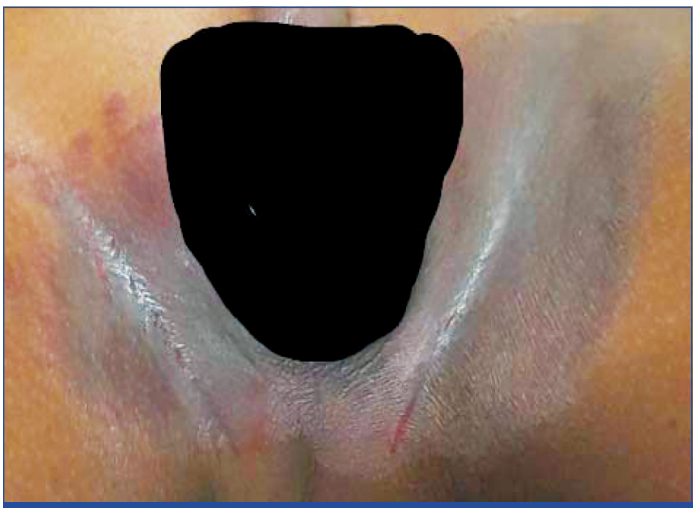
Inverse psoriasis is an uncommon variant of psoriasis involving flexural and intertriginous areas. Because of the warm and moist environment of these regions, lesions often have minimal scaling and may clinically resemble dermatophytosis, particularly in children, resulting in delayed diagnosis and inappropriate treatment [1,2].

An 11-year-old boy presented to the department of Paediatrics with complaints of itching and reddish lesions over the genital region for the past three months. The lesions were initially noticed over the scrotum and gradually extended to involve both inguinal folds. The condition had been progressive and was associated with intense itching. There was no history of fever, weight loss, trauma, recent drug intake, or any systemic illness. Similar lesions were not present elsewhere on the body. There was no personal or family history suggestive of psoriasis, atopy, or autoimmune disease. The child had received immunisations appropriate for his age according to the national immunisation schedule, and his developmental milestones were normal.

On general physical examination, the child was stable. Systemic examination was normal. Anthropometric measurements were appropriate for age. Cutaneous examination revealed bilateral, symmetrical, well-defined erythematous plaques involving both inguinal folds with extension onto the scrotum [Table/Fig-1]. The plaques appeared smooth, shiny, and moist with minimal scaling. There was no evidence of central clearing, active peripheral scaly margins, or satellite lesions. Examination of the scalp, hair, nails, and mucosa did not reveal any abnormalities. Potassium Hydroxide (KOH) examination and fungal culture were not performed.



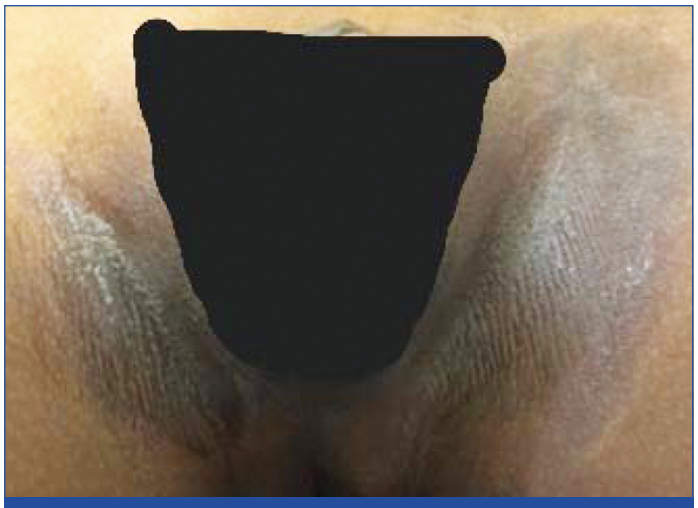
[Table/Fig-1]: Bilateral symmetrical, well-defined erythematous plaques involving both inguinal folds with extension onto the scrotum at presentation.

Based on the initial clinical impression of tinea cruris, the child was started on topical clotrimazole 1% cream twice daily for four weeks. As there was no improvement, oral itraconazole 5 mg/kg/day was administered for one week. However, after one week of systemic antifungal therapy, no significant clinical improvement was observed.

In view of the persistent lesions and atypical clinical features, a dermatology consultation was obtained. After clinical evaluation, the dermatology team favoured a clinical diagnosis of inverse psoriasis based on the characteristic morphology and symmetrical distribution of the lesions, failure to respond to adequate topical and systemic antifungal therapy, and subsequent marked improvement following psoriasis-directed treatment.

Differential diagnoses considered included tinea cruris, candidal intertrigo, irritant contact dermatitis and, inverse psoriasis. Absence of satellite pustules excluded candidiasis, while lack of exposure history and eczematous changes made contact dermatitis less likely. Tinea cruris was considered less likely by the dermatologist because the lesions lacked the typical annular morphology with central clearing and an active scaly advancing border. Instead, the plaques were smooth, shiny, and symmetrically distributed over both inguinal folds with scrotal involvement, findings that were more suggestive of inverse psoriasis. The absence of clinical improvement despite adequate topical and systemic antifungal therapy further argued against tinea cruris.

Antifungal therapy was discontinued, and following dermatology consultation, the child was started on topical betamethasone valerate 0.1% with fusidic acid 2% cream once daily for one week, along with regular emollients. Oral levocetirizine 5 mg once daily was prescribed for symptomatic relief of pruritus. The corticosteroid was used for a short duration under specialist supervision because of the persistence of the lesions, and the child was monitored for local adverse effects. On follow-up after one week, the child showed marked clinical improvement [Table/Fig-2], with significant reduction in erythema and itching. The lesions resolved with mild post-inflammatory hyperpigmentation. KOH examination, fungal culture, and skin biopsy were not performed. The child had already received an adequate course of both topical clotrimazole and oral itraconazole before presentation, with no significant clinical improvement. The



[Table/Fig-2]: Marked reduction in erythema and pruritus after one week of topical corticosteroid therapy, with residual post-inflammatory hyperpigmentation.

persistence of lesions despite appropriate antifungal therapy, along with the characteristic morphology and distribution of the lesions, raised suspicion of inverse psoriasis. As the clinical features were strongly suggestive of inverse psoriasis and the child demonstrated marked clinical improvement following psoriasis-directed therapy, histopathological confirmation was deferred after discussion with the dermatology team.

Inverse psoriasis is an uncommon form of psoriasis involving flexural areas such as the groin and genital region [1]. Because scaling is often minimal in these moist areas, the condition may be mistaken for dermatophytosis [1,2]. In the present case, the lesions were initially treated as tinea cruris because of their location and associated pruritus. However, the absence of central clearing, symmetrical involvement of both inguinal folds with extension onto the scrotum, and failure to improve with antifungal therapy raised suspicion of an alternative diagnosis [2,3]. Dermatological evaluation favoured the clinical diagnosis of inverse psoriasis. Similar diagnostic difficulties have been reported in paediatric patients with genital and flexural psoriasis [4,5]. Recognition of these characteristic clinical features is important, as delayed diagnosis may result in prolonged and unnecessary antifungal treatment. The child showed marked improvement after initiation of topical corticosteroid therapy and emollients, further supporting the diagnosis [1]. Although low-potency topical corticosteroids are generally preferred for genital and intertriginous psoriasis because of the increased risk of local adverse effects, short-term use of low to mid-potency topical corticosteroids may be considered in selected cases under specialist supervision when clinically indicated. Careful monitoring and limiting the duration of therapy help minimise potential adverse effects [6].

Although mycological and histopathological confirmation was not obtained, the characteristic clinical morphology, symmetrical flexural distribution, failure to respond to appropriate antifungal therapy, and marked improvement following psoriasis-directed treatment strongly supported the clinical diagnosis of inverse psoriasis. Nevertheless, the absence of confirmatory investigations remains a limitation of this report.

This case highlights the need to consider inverse psoriasis in children presenting with persistent intertriginous lesions that do not respond to conventional antifungal treatment and illustrates how inverse psoriasis in children may closely mimic fungal infection of the groin and therefore, lead to initial misdiagnosis. Persistent or atypical intertriginous lesions should prompt clinicians to consider alternative diagnoses, including psoriasis. Awareness of this presentation is important for paediatricians and dermatologists, as early recognition allows appropriate therapy, prevents unnecessary antifungal treatment, and improves clinical outcomes and quality of life.

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