

# Inverse Psoriasis masquerading as cutaneous candidiasis

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## Abstract

Psoriasis is a chronic skin disorder affecting approximately 2% of the European and American population. The most common form of psoriasis is the chronic plaque type. Inverse psoriasis is a rare form of psoriasis that affects between 3% and 7% of the patients with psoriasis. It can comprise genital skin folds as part of genital psoriasis, and it is one of the most commonly seen dermatoses of this area. The skin at the inverse body sites differs from skin at extensor sites with less epidermal keratinization and more sweat glands. The differential diagnosis of inverse psoriasis includes any erythematous rash with or without pruritis that appears in the intertriginous areas of the body. The most immediate dermatologic diseases that come to mind are bacterial and fungal infections. The lack of scaling in inverse psoriasis can easily mislead physicians away from a psoriatic etiology and towards an infectious one most probably cutaneous candidiasis. We report one such case of inverse psoriasis presenting as a diagnostic dilemma. Therefore a lack of response to antifungal drugs and persistence of lesions should point towards the most important differential diagnosis that is inverse psoriasis which can easily be proven by a histopathological examination. Treatment of inverse psoriasis includes mild topical corticosteroids, topical calcineurin inhibitors such as tacrolimus and pimecrolimus, topical vitamin D3 analogues such as calcipotriol and oral agents like Adalimumab and dapsone have also been tried.

**Keyword-** Psoriasis, Flexural sites, Candidiasis

## Introduction

Psoriasis is a chronic inflammatory papulosquamous disease characterized by multiple remissions and relapses.<sup>(1)</sup> It affects approximately 2% of the world's population, affecting both men and women.<sup>(2)</sup> Inverse psoriasis (IP), also known as flexural or intertriginous psoriasis, is a variety of plaque psoriasis that involves the body folds, most often the axillary, anogenital, and inframammary ones.<sup>(3)</sup> Local conditions of intertriginous areas, such as warmth, moisture, and friction, make it susceptible to maceration, fissuring, constant irritation, and absence of scaling, which induces the modified clinical appearance of psoriasis in flexion folds when compared with classical characteristics of chronic plaque psoriasis. As a result, differential diagnosis with fungal and sexually transmitted diseases becomes difficult.

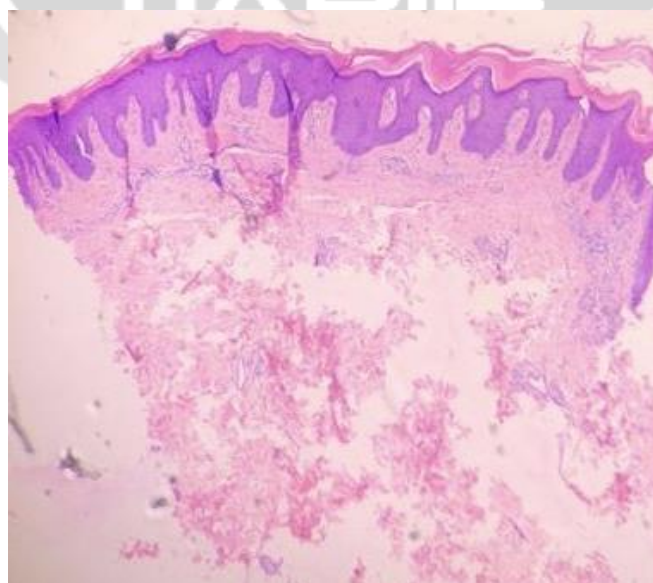
## Case report

A 45-year-old male patient, without co-morbid conditions, presented with complain of persistent itchy lesion in perianal region for the past 2 years which had an immensely negative impact on his quality of life and psychosexual wellbeing. There was no previous history of psoriasis, eczema, or other skin conditions. He had no family history of any skin conditions, including psoriasis.

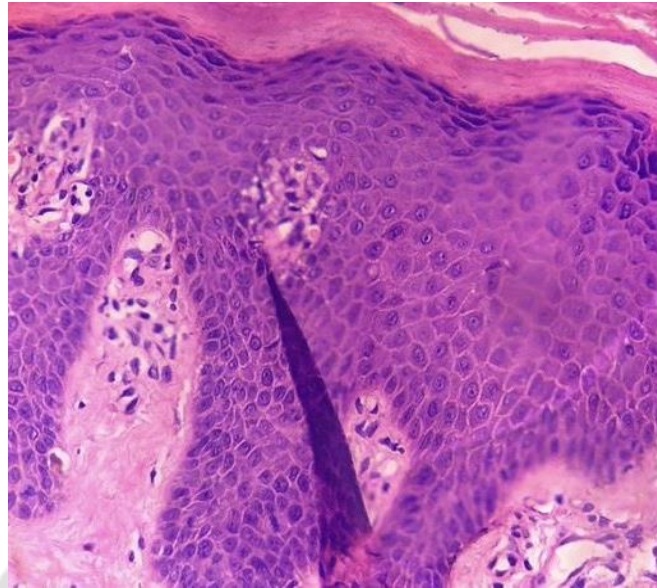
On clinical examination there was a well defined erythematous and exudative plaques in the perianal intertriginous area with few erosions and maceration on its surface.(figure 1) Based on clinical findings a diagnosis of chronic cutaneous candidiasis was made and patient was treated with oral fluconazole and topical antifungal creams. Follow up visits showed only a minimal improvement with persistence of the lesions. Therefore a biopsy was considered at this time and the histopathological examination revealed psoriasiform reaction pattern with epidermal hyperplasia and regular elongation of rete ridges. (figure2a) In addition, there was confluent parakeratosis with mild spongiosis and vascular dilatation in papillary dermis. (figure 2b) Therefore a diagnosis of inverse psoriasis was made and patient was treated with mild corticosteroid cream with significant improvement.



**Fig 1-** Well defined erythematous and exudative plaques in the perianal intertriginous area with few erosions and maceration on its surface



**Fig 2a** – Epidermis showing psoriasiform reaction pattern with hyperplasia and regular elongation of rete ridges.



**Fig 2b-** Epidermis showing confluent parakeratosis with mild spongiosis and vascular dilatation in papillary dermis

## Discussion

Inverse psoriasis, also known as flexural or intertriginous psoriasis, is a rare form of psoriasis that occurs in the flexural skin folds. This is in contrast to common psoriasis, which is most commonly found on the trunk and extensor surfaces of the body, such as the knees, elbows, sacral area, and scalp. Approximately 3–7% of psoriasis patients present with inverse psoriasis.<sup>(4,5)</sup> There have been several drugs associated with inverse psoriasis outbreaks, although the exact pathophysiology of such outbreaks is unknown. For the most part, the drugs in question have also been known to cause either exacerbations of plaque psoriasis or psoriasiform eruptions. Cases of inverse psoriasis have been specifically noted to be caused by infliximab, terbinafine, and etretinate.<sup>(6-8)</sup>

The most evident difference between classical plaque-type psoriasis and inverse psoriasis is the lack of, or less, scaling at the intertriginous areas. The lesions are well demarcated, erythematous, and often presenting with a shiny/glazed appearance. This is caused by the moist, warm milieu at the flexural body sites characterized by harboring conglomerations of follicles and sebaceous glands in conjunction with numerous apocrine and eccrine glands (in particular the axillae and groin) that might lead to friction and maceration.<sup>(9,10)</sup> This renders the inverse areas more susceptible to Koebner phenomenon. On the histopathologic level, the lessened scaling is reflected by similarly decreased presence of epidermal hyperplasia, and more pronounced spongiosis in inverse psoriasis is also a histologic characteristic.<sup>(11)</sup> In an immunohistochemical study comparing inverse and chronic plaque psoriasis to investigate a possible pathogenetic difference, a decrease of CD161<sup>+</sup> cells in the dermis of flexural psoriasis patients was found. The authors speculate it to be caused by a microbial overgrowth in flexural psoriasis thereby affecting NK cells,<sup>(12)</sup> but this remains speculative.

The differential diagnosis of inverse psoriasis includes any erythematous rash with or without pruritis that appears in the intertriginous areas of the body. The most immediate dermatologic diseases that come to mind are bacterial and fungal infections. The lack of scaling in inverse psoriasis can easily mislead physicians away from a psoriatic etiology and towards an infectious one as noted in our case scenario. Treatment of inverse psoriasis includes mild topical corticosteroids, topical calcineurin inhibitors such as tacrolimus and pimecrolimus, topical vitamin D3 analogues such as calcipotriol and oral agents like Adalimumab and dapsone have also been tried.

## Conclusion

Therefore a lack of response to antifungal drugs and persistence of lesions should point towards the most important differential diagnosis that is inverse psoriasis which can easily be proven by a histopathological examination.

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