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PSYCHOGENIC PRURITUS PRESENTING AS RECALCITRANT PRURIGO NODULARIS WITH SECONDARY TRICHOTILLOMANIA: A CASE REPORT

Dermatology

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ABSTRACT

Background: Prurigo nodularis manifests as excoriated papulo-nodules due to chronic itch-scratch cycle. Recalcitrant Prurigo nodularis may suggest psychogenic factors. Secondary trichotillomania developing due to skin pruritus from compulsive scratching has been documented rarely. (Jafferany & Shi, 2019). **Case Presentation:** A 52-year-old female presented with 2-year history of pruritic papulo-nodules on extensor surfaces, partially responsive to corticosteroids, methotrexate (12.5 mg/week, 165 mg total) and thalidomide (100 mg TDS). Extensive investigations ruled out infection, malignancy, systemic causes. Scalp excoriations with hair loss indicated secondary trichotillomania. Fluoxetine 20 mg nightly as a monotherapy achieved dramatic response within 3-8 weeks-pruritus resolved, new lesions ceased, hair regrowth occurred. **Conclusion:** This case demonstrates recalcitrant Prurigo nodularis with secondary trichotillomania responding to psychiatric intervention. Psycho-dermatological approach with SSRIs represents effective management for psychogenic pruritus in refractory Prurigo nodularis.

KEYWORDS

Prurigo nodularis, trichotillomania, psychogenic pruritus, recalcitrant dermatoses, psycho-dermatology

INTRODUCTION

Prurigo nodularis features hyperkeratotic papulo-nodules from chronic itch-scratch cycle (Bolognia et al., 2018). Standard therapy includes anti-histamines, topical and systemic corticosteroids, methotrexate and thalidomide for refractory cases (Patterson, 2020). Treatment resistance suggests psychogenic factors or underlying systemic disease. Trichotillomania rarely occurs in Prurigo Nodularis when scalp pruritus triggers scratching and hair pulling (Sadick, 2021). Psycho-dermatology addresses this dermato-psychiatric interface. This case illustrates recalcitrant Prurigo nodularis with secondary trichotillomania responding dramatically to fluoxetine after exhaustive exclusion of organic causes, emphasizing psychiatric evaluation in refractory pruritic dermatoses.

CASE PRESENTATION

A 52-year-old female farmer from Sillod, Maharashtra presented with 2-year history of intensely pruritic papulo-nodules predominantly on extensor surfaces of bilateral upper and lower limbs. On cutaneous examination multiple excoriated, hyperpigmented papules (4-8 mm) and nodules (1-2 cm) with crusting and central hypopigmentation were noted predominantly over the extensor surface of bilateral lower limbs (Figure1), upper limbs and trunk.

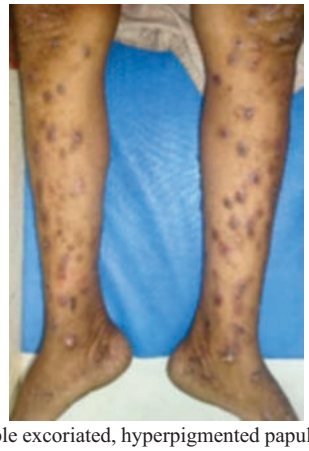
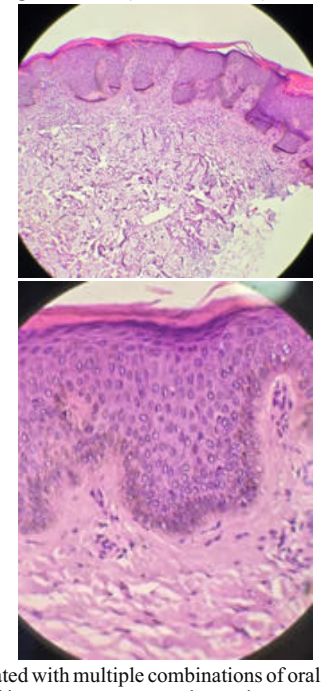


Figure1: Multiple excoriated, hyperpigmented papules (4-8 mm) and nodules (1-2 cm) with crusting, central hypopigmentation on B/L LL (predominantly extensors)

Investigations revealed normal complete blood count, erythrocyte sedimentation rate, C-reactive protein, liver function tests, renal function tests, fasting glucose, and thyroid profile. Infectious work-ups including HIV, HBsAg, anti-HCV, ASO titer, and Mantoux test were negative. Chest X-ray, abdominal ultrasound, peripheral smear, and rheumatoid factor excluded underlying malignancy or autoimmune disorders.

Skin Punch biopsy of the lower limb lesion demonstrated hyperkeratosis, parakeratosis, acanthosis, elongated rete ridges with dense dermal lympho-histiocytic infiltrate (Table 1), confirming the diagnosis of prurigo nodularis (Patterson, 2020).



Patient was treated with multiple combinations of oral and topical anti-histaminics and immunosuppressants but no improvement was seen in lesions even after 6 months.

The patient was subsequently lost to follow up and discontinued all her ongoing medications. Four months later, she represented with complaints of scalp excoriation and diffuse hair fall (Figure 2).

Psychiatric reference confirmed trichotillomania secondary to scalp pruritus with low mood. Fluoxetine 20mg nightly was initiated as monotherapy.

Within 2-3 weeks of fluoxetine therapy, pruritus improved

dramatically (VAS 9/10 to 2/10), with cessation of new lesion formation. Near- complete resolution of skin lesions and evident scalp hair regrowth were observed at 8 weeks **(Figure 3)**

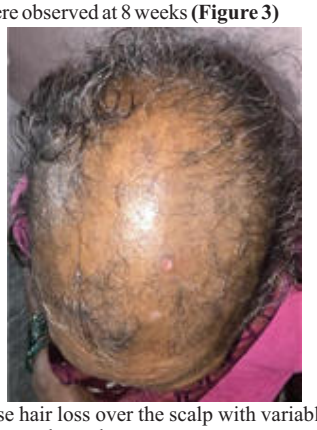


Figure-2: Diffuse hair loss over the scalp with variable length of hair with excoriation over the scalp.

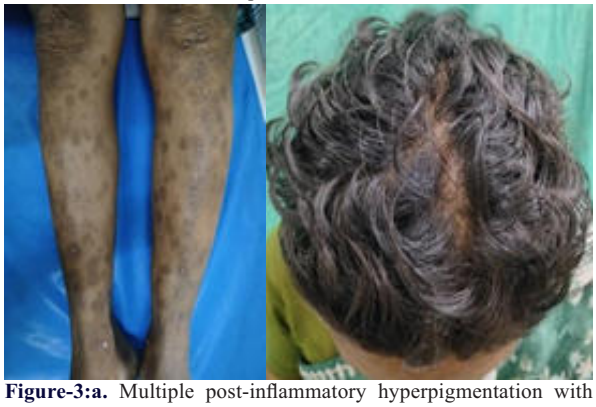


Figure-3:a. Multiple post-inflammatory hyperpigmentation with central hypopigmentation presenting over the B/L LL (extensors) (after 20mg of 8 weeks of fluoxetine treatment)

b. Evident hair regrowth (after 20mg of 8 weeks of fluoxetine treatment)

The patient initially received sequential therapy with multiple oral and topical anti-histaminics and corticosteroids, followed by methotrexate 12.5 mg weekly (Cumulative Dose- 165 mg over 3 months) and subsequently thalidomide 100 mg three times daily for 2 months, achieving only partial response with persistent formation of new lesions.

DISCUSSION

Table 1: Histopathological Features Of Prurigo Nodularis

Feature	Finding	Significance
Epidermis	Hyperkeratosis, parakeratosis, acanthosis	Chronic scratching response
Rete ridges	Elongation, clubbing	Nodular hyperplasia
Dermis	Dense lympho-histiocytic infiltrate	Itch-scratch cycle mediator
Excoriation	Crusting, hemorrhage	Compulsive scratching

This paradigm case of recalcitrant prurigo nodularis confirms selective serotonin reuptake inhibitors as a novel therapy in recalcitrant Prurigo Nodularis, elucidating fundamental limitations of peripheral immunomodulatory approaches. Fluoxetine monotherapy achieved remarkable clinical remission with simultaneous resolution of cutaneous papulo-nodules and scalp hair regrowth through multifaceted central neuropharmacological mechanisms via selective inhibition of serotonin reuptake, enhancing descending serotonergic inhibition of spinothalamic pruriceptive transmission, downregulating peripheral 5-HT3 receptor hypersensitivity mediating itch transduction, and modulates prefrontal cortical circuits attenuating compulsive excoriation behaviors characteristic of the itch-scratch-trichotillomania axis (Mansouri et al., 2018; Jafferany & Shi, 2019).The therapeutic failure of prior conventional regimens substantiates their mechanistic inadequacy for psychogenic pruritus. Methotrexates' adenosine A2A receptor agonism and dihydrofolate reductase inhibition predominantly suppress peripheral T-cell driven inflammation but fails to address central serotonergic dysregulation perpetuating neurogenic itch (Huang & Cohen, 2020). Thalidomides' mediated TNF-α ubiquitination and sedative effects provide transient neurogenic inflammation suppression; however, incomplete modulation of central pruritus processing circuits limits durable response in psychogenic phenotypes (Woo & Kim, 2021). Fluoxetines' singular efficacy confirms the hierarchical therapeutic algorithm for refractory PN through rigorous exclusion of organic etiology followed by an empirical SSRI trial that represents optimal evidence-based management. The clinical presentation and history confirms the diagnosis of secondary trichotillomania caused by itching in recalcitrant Prurigo Nodularis. This case advances psycho-dermatological literature by establishing fluoxetine monotherapy as a novel intervention for psychogenic prurigo nodularis, obviating multimodal immunosuppression and advocating interdisciplinary dermato-psychiatric evaluation as standard of care for recalcitrant pruritic dermatoses.

CONCLUSION

Recalcitrant prurigo nodularis with secondary trichotillomania responded dramatically to fluoxetine monotherapy after failing to respond to other treatment.Performed investigations and psychiatric and dermatological evaluation confirmed psychogenic etiology. Psycho-dermatological approach with SSRIs represents optimal management for treatment-resistant PN. Mandatory psychiatric evaluation in patients of refractory PN should be done to rule out any psychiatric component involved.

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