# PSORIASIFORM DRUG ERUPTION INDUCED BY ANTI-TUBERCULOSIS MEDIACTION

Author: Sreelatha J* ,Shabaz, Sandhya M, Bija Aby

*Togeri veeramallappa memorial college of pharmacy*

**ABSTRACT**

*Psoriasis is a chronic inflammatory skin condition that is often associated with systemic manifestations. It affects about 2 percent of U.S. adults, and can significantly impact quality of life. The etiology includes genetic and environmental factors. Diagnosis is based on the typical erythematous, scaly skin lesions, often with additional manifestations in the nails and joints. Plaque psoriasis is the most common form. In our case report A 60 years old male patient complaining of itchy skin lesions all over the body, bilateral lower limbs swelling since 2 days, itchy skin lesions over B/L foot since 1 week had been admitted to VIMS hospital, Ballari, Karnataka. With a past history of pulmonary tuberculosis since 5 months and was on treatment with anti-tubercular medications, patient was diagnosed as psoriasiform drug eruption induced by anti tuberculosis medication based on subjective and objective evidences which were confirmed by using NARANJO SCALE and WHO-UMC CAUSALITY ASSESSMENT SCALE*

**KEY WORDS** *: PSORIASIFORM , ANTI-TUBERCULOSIS MEDICATION , DRUG ERUPTION, LINCHENOID DRUG ERUPTION, NARANJO SCALE, WHO-UMC SCALE, T CELLS KERATINOCYTE HYPERPROLIFERATION.*

## INTRDUCTION:

Psoriasiform drug eruptions can be induced by several drugs. Psoriasis is a chronic inflammatory disease characterized by T-cell-mediated cytokine production that drives the hyperproliferation and abnormal differentiation of keratinocytes .

Psoriasis is one of the most common dermatologic diseases, affecting up to 2% of the world's population. It is an immune-mediated disease clinically characterized by erythematous, sharply demarcated papules and rounded plaques covered by the silvery micaceous scale. The skin lesions of psoriasis are variably pruritic. Drugs can cause new lesions when there is no history or family history of psoriasis. Based on the psoriatic drug eruption probability score, β-blockers, synthetic anti-malaria drugs, non-steroidal anti-inflammatory drugs (NSAIDs), lithium, digoxin, and tetracycline antibiotics are relevant in psoriasis.[2]Psoriatic lesions contain infiltrates of activated T cells with cytokines which are responsible for keratinocyte hyperproliferation, which results in characteristic clinical findings[1] ,various drugs that have been listed in the literature as causative agents are β-blockers, synthetic anti-malarial drugs, non-steroidal anti-inflammatory drugs [NSAIDs], lithium, digoxin and tetracycline antibiotics. ATT is not a commonly known causative agent of psoriatic rash; Common cutaneous adverse effects of anti-tuberculosis medication include morbilliform rash, urticaria, lichenoid drug eruption, exfoliative dermatitis, hyperpigmentation, erythema multiforme-type drug eruption and Stevens-Johnson syndrome[2].

Based on the literature views it was found that psoriasiform drug eruption induced by anti-tuberculosis mediaction was reported rarely so hence, here we report a rare case of psoriasiform drug eruption in 60 year old man taking anti-tubercular medication.

## CASE REPORT:

A 60 years old male patient complaining of itchy skin lesions all over the body, bilateral lower limbs swelling since 2 days, itchy skin lesions over B/L foot since 1 week had been admitted to VIMS hospital, Ballari, Karnataka. With a past history of pulmonary tuberculosis since 5 months and was on treatment with anti-tubercular medications i.e. ISONIAZID 600mg, PYRAZINAMIDE 1500 mg, ETHAMBUTOL 1200mg, RIFAMPICIN 450mg [according to RNTCP 2016 guidelines].patient was apparently normal 5months back later he developed cough and breathless for which he was admitted to a local hospital at his residence and he was diagnosed as pulmonary tuberculosis and treatment was started immediately. After 2 months of treatment patient developed itchy skin lesions over the body which is exaggerated since 15 days, patient was non-compliance to TB-medications and had discontinued the treatment for 1 month during which the skin lesions reduced when TB treatment was restarted ,patient developed lesions again associated with itching

and itching was moderate in severity and was intermittent type for which he previously applied moisturizer for a week .on examination patient was afebrile ,BP was 110/80 mmHg ,PR was 72 bpm and SPO2was 96% reducing at room air and on systemic examination RS- B/L vesicular breath sounds (+), CVS- s1 s2 heard, CNS – conscious and oriented and P/A – soft and non tender and on patient cutaneous examination of skin shows B/L M/R hyperpigmented plaque with increased skin marking with minimal scaling (+) over B/L thighs flexors and extensor aspect of leg, dorsum of foot , extensor aspect of arm, forearm ,back, neck (front, lateral and back of neck)B/L M/R hyperpigmented patched over both cheeks, core lateral parts of forehead. Nails showed longitudinal ridge (+) over all fingers and toe nails and hair presented minimal white scale (+) on scalp and oral mucosa showed violaceous plaque (+) over buccal mucosa and patient had B/L lower limb oedema till ankle and M/R fissures over the B/L cheeks. section studied from skin biopsy was done which reports as epidermis showing acanthosis, parakeratosis, uniform elongation of rete ridges, thinning of the papillary epidermis. Papillary dermis and reticular dermis shows lymphocytic infiltrate. Few inflammatory cells seen in parakeratotic layer and the skin biopsy was concluded as psoriasis vulgaris.

Based on the above mentioned details dermatologist diagnosed it as psoriasiform drug eruption induced by anti-tuberculosis drugs and patient was advised to stop ATT drugs and patient was recommended to use INJ.CHLORPHENIRAMINE MALEATE 2cc once a day, T.CETRIZINE once a day, T.B.COMPLEX once a day ,LIQUID PARAFFIN and WHITEFILED ONITMENT +BETAMETHASONE CREAM was given for topical application once a day .this case was analyzed by NARANJO SCALE and WHO-UMC SCALE ,as per Naranjo scale it showed the score of +9 which indicate adverse reaction was definite and a causality assessment was done as per the WHO-UMC scale which showed that the adverse event was likely/probable caused due to ATT drugs and this case was concluded as PSORIASIFORM DRUG ERUPTION INDUCED BY ANTI-TUBERCUOSIS MEDICATION.

## DISCUSSION:

The psoriasiform rash is a severe adverse drug reaction characterized by widespread lesions. Psoriasis varies in severity from small, localized patches to complete body coverage. Among all the various adverse drug reactions, lichenoid drug eruption is commonly associated with anti-tuberculosis medication and needs to be differentiated from psoriasiform eruption. The underlying pathomechanism of drug-induced psoriasiform eruptions remains uncertain, although several immunological interactions have been hypothesized[1]. The available evidence is limited predominantly to anecdotal single-case reports or retrospective case series done by Park JJ *et al.* in 2009[2]. In our case report psoriasiform drug eruption is due to anti-tuberculosis medication, it was confirmed by rechallenging of anti-tuberculosis medication. When patient was stopped anti-TB medications for period of 1 month during which the skin lesions reduced when TB treatment was restarted, patient developed lesions associated itching and it was concluded as psoriasis vulgaris by biopsy. Therefore, psoriasiform and lichenoid drug eruptions might share a common inflammatory pathway, such as the actions of PDC-derived [plasmacytoid dendritic cell] there is an increase in IFN-α expression that infiltrates the dermis of psoriatic skin. From these relationships, we suggest that anti-tuberculosis medication can induce not only lichenoid drug eruption but also psoriasiform drug eruption via PDCs

## CONCLUSION:

Here we report a rare case of psoriasiform drug eruption induced by anti-tuberculosis medication in 60 year old male patient and it was found that anti-tuberculosis medication not only causes linchenoid drug eruption but it also induce psoriasiform drug eruption. it

is whole and sole responsibility of doctors and pharmacist to educate patient as well as public about adverse effects linked up with anti-TB drugs and help patient to overcome the adverse effect and lead a healthy life.

## CONSENT OF THE PATIENT

Written informed consent was obtained from the patient for publication of this case report and accompanying images.

## AUTHOR AGREEMENT STATEMENT

This is an original work and we solemnly declare that manuscript has not been published before in any other journal's .We also confirm that all the mentioned author are aware of all the declaration and agree to them.

## DECLARATION OF COMPETING INTEREST

No conflict of Interest.

## REFERANCES:


1. SINDHU N. PSORIASIFORM DRUG ERUPTION INDUCED BY ANTI-TUBERCULOSIS MEDICATION: A CASE REPORT. Int J Curr Pharm Sci [Internet]. 2023 Jan. 15 [cited 2023 Dec. 28];15(1):68-9.
2. Park JJ, Choi YD, Lee JB, Kim SJ, Lee SC, Won YH, Yun SJ. Psoriasiform drug eruption induced by anti-tuberculosis medication: potential role of plasmacytoid dendritic cells. Acta dermato-venereologica. 2010 Feb 4;90(3):305-6.
3. de Gannes GC, Ghoreishi M, Pope J, Russell A, Bell D, Adams S, Shojania K, Martinka M, Dutz JP. Psoriasis and pustular dermatitis triggered by TNF-α inhibitors in patients with rheumatologic conditions. Archives of Dermatology. 2007 Feb 1;143(2):223-31.
4. Weigle N, McBane S. Psoriasis. American family physician. 2013 May 1;87(9):626.