

Exfoliative Dermatitis Secondary To Ethambutol And Pyrazinamide

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Citation

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Abstract

Exfoliative dermatitis secondary to ethambutol and pyrazinamide is very uncommon and has not been reported in literature.

INTRODUCTION

Exfoliative dermatitis is characterized by erythema and scaling of the involving skin surface. Such type of scaly erythematous dermatitis to the antitubercular drugs likes isoniazid, rifampicin, streptomycin and pyrazinamide is known in literature. But to the best of our knowledge, a case of exfoliative dermatitis secondary to ethambutol and pyrazinamide is very uncommon and has not been reported in literature.

CASE REPORT

An 18 years old female was admitted to our department as a proven case of bilateral pulmonary tuberculosis with complaints of severe generalized itching, erythema and scaling from last 10 days. It was also associated with facial and pedal edema. She was on anti-tubercular therapy (Rifampicin, Isoniazid, Ethambutol and Pyrazinamide) from last 2 months for pulmonary tuberculosis by some local practitioner. The initial one and half months of the therapy was uneventful till 10 days back when she developed generalized itching and erythema all over the body. Despite the erythema and pruritus, she continued her anti-tubercular chemotherapy which led to the progression of lesions to scaling and edematous swelling of face and feet.

Clinical examination revealed generalized erythema and edema with scaling eruptions involving also the palms and soles (Figure:1A &B).

Figure 1

Figure 1a: Revealed exfoliative dermatitis



Figure 2



Skiagram chest was suggestive of pulmonary tuberculosis. Laboratory investigations were not suggestive of any systemic illness. Hb – 10.4g/dl, TLC – 5200/cmm, DLC – P62L38, Blood urea – 26mg/dl, Serum creatinine – 0.4mg/dl, Serum bilirubin – 0.5mg/dl. Sputum for acid fat bacilli on three consecutive days was negative. Bleeding profile was normal which was done to rule out any Anti tubercular drugs induced thrombocytopenic purpura. Skin biopsy showed hyperkeratotic changes suggestive of exfoliative dermatitis. So, a provisional diagnosis of Anti tubercular drugs induced exfoliative dermatitis was made.

Immediately anti tubercular drugs were stopped and she was started with steroids and antihistaminics. After 7 days of treatment, the symptoms subsided and there was regression of skin eruptions. Later on, anti-tubercular drugs were restarted one by one in challenging dosages as per WHO guidelines. She tolerated Rifampicin and Isoniazid very well without any recurrence of the symptoms. When Ethambutol was given on the 7th day of the challenge test, she developed generalized pruritus, erythema and facial puffiness within 6 hours. It proved Ethambutol to be the culprit which was never tested again. Similarly, she developed scaling eruptions and edema with challenging dose of Pyrazinamide. So, our diagnosis of Ethambutol and Pyrazinamide induced exfoliative dermatitis was proved and patient was asymptomatic in next 15 days on symptomatic treatment (Figure:2A ,B & C).

Figure 3

Figure 2a



Figure 4

Figure 2b



Figure 5

Figure 2c



She was discharged on Rifampicin and Isoniazid and after completing the adequate one year of therapy, she is clinically and radiologically normal.

DISCUSSION

Modern anti-tubercular chemotherapy regimens have been in use for over 30 years. However, the frequency of severe complications is not known, probably due to lack of notification and under-reporting. It is also difficult to measure the efficacy or toxicity of a particular drug, since anti-tubercular drugs are usually administered in combination regimens of several drugs. The main adverse effects of anti-TB drugs usually occur during the first 2-3 weeks of treatment.

Exfoliative dermatitis or erythroderma is an erythematous, scaly dermatitis involving most, if not all of the skin. This generalized scaling eruption of the skin is drug induced,

idiopathic or secondary to underlying cutaneous or systemic disease. Approximately 10% of the cases are the result of drug reactions₁.

Skin rashes and eruptions are very rare side effects of ethambutol and pyrazinamide. Ethambutol induced exfoliative dermatitis has been reported in a patient of tubercular pleural effusion₂. Pyrazinamide induced maculopapular rash has been reported twice, one in a patient of skin tuberculosis₃ and other in pulmonary tuberculosis₄. But even after thorough search of the literature, no such case has been found in which a single patient is having exfoliative dermatitis due to both ethambutol and pyrazinamide.

The individual should be questioned about exposure to other medications or skin preparations, environmental contact, etc., that may be responsible. There should be a careful examination to detect evidence of unrelated skin diseases (scabies, contact dermatitis, childhood exanthem, acne, etc.).

Unless an explanation is found for skin reaction unrelated to anti-TB medications, all anti-TB medications should be discontinued promptly and the individual examined each week until the skin reaction disappears. If the rash is severe or if there is evidence of mucosal involvement, hypotension or severe illness, corticosteroid treatment should be instituted. Cases of severe dermatologic reactions, such as exfoliative dermatitis, and other cases of dermatitis associated with severe systemic reactions should be referred for hospital admission for treatment, and for establishing a new anti-tuberculosis regimen or for re-challenge according to WHO guidelines₅ under daily surveillance as an inpatient. In our patient the anti-TB drugs were stopped immediately

and steroids with antihistaminics were given.

It is appropriate to re-challenge after the skin reaction clears or subsides. It may not be possible to identify the specific causative agent by the characteristics of the skin reaction. Thus, it is appropriate to restart the most important member or members of the regimen (isoniazid or rifampin) immediately, before trying pyrazinamide and/or ethambutol. Treatment should be continued with the original regimen modified by the deletion of the causative agent. A longer period of treatment may be required if the offending agent was isoniazid or rifampin, or pyrazinamide during the initial 2 months of treatment.

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