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Exfoliative Dermatitis to Anti Tubercular Drugs

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Abstract: *The success of tuberculosis treatment rests on multidrug anti tuberculosistherapy at least for six months. During the prolonged course of therapy, patients and doctors may come across many adverse drug events (ADE). Minor ADE are common but some are rare and life threatening. Hence it is obligatory for the health care providers to anticipate ADE during the course of therapy and take necessary measures. Skin related ADE can occur with all anti TB drugs. The presentation is of varying forms, while exfoliative dermatitis a form of cutaneous hypersensitivity occurs after few weeks of therapy. Exfoliative dermatitis to all four first line drugs singly or rarely in combination has been reported. Here we report a rare case of extra pulmonary tuberculosis (pleural effusion) with exfoliative dermatitis to all four oral first line drugs (Rifampicin, Isoniazid, Ethambutol, Pyrazinamide) and streptomycin.*

Keywords: *Anti-tubercular drugs, Cutaneous adverse drug reactions, Exfoliative dermatitis*

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I. Introduction

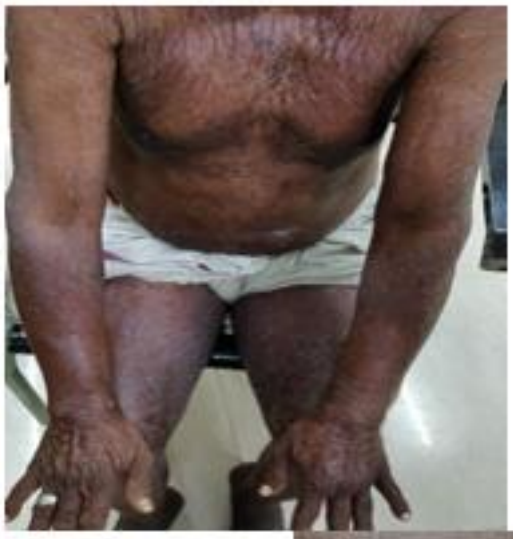
Exfoliative dermatitis also known as erythroderma is an uncommon but serious skin disorder which results in generalized scaling eruption of the skin. It is usually drug induced, idiopathic, or secondary to underlying cutaneous or systemic diseases. Theoretically, any drug may cause exfoliative dermatitis. Among the anti-tubercular drugs exfoliative dermatitis is reported with rifampicin, isoniazid, ethambutol, pyrazinamide, streptomycin, PAS either singly or in combination of two drugs in some cases. Early recognition and prompt withdrawal of anti-tubercular drugs and administration of steroids, if reaction is sever, are the corner stones of its management. Here we report a rare case of extra pulmonary tuberculosis that is a case of pleural effusion with exfoliative dermatitis to all four first linedrugs (Rifampicin, Isoniazid, Ethambutol, Pyrazinamide) and streptomycin.

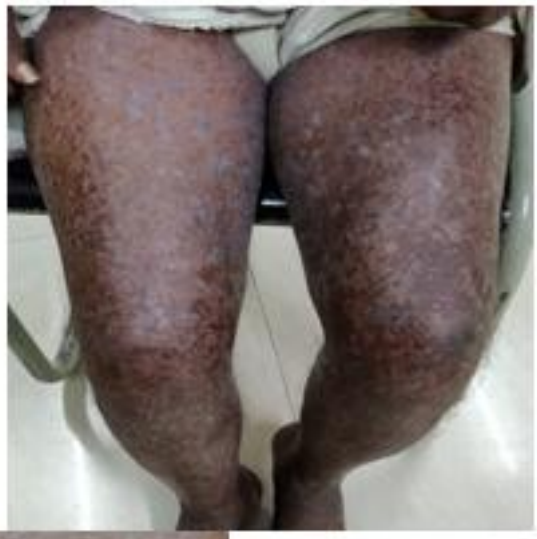
II.Case Report

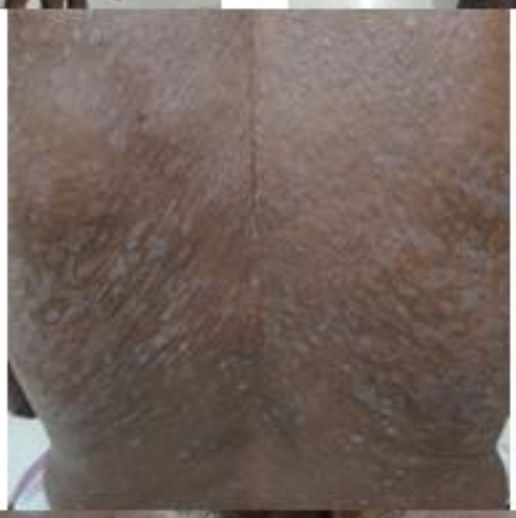
A 55-year-old male patient, a diagnosed case of extrapulmonary tuberculosis was on CAT – I anti tubercular treatment for pleural effusion for ten weeks, presented to us with complaints of itching and generalized rash all over the body. On examination his heart rate was 98 beats/min, his blood pressure was 130/70mmHg, respiratory rate 32/min, and oxygen saturation 97%. He was febrile, no pallor, oedema, icterus, or lymphadenopathy. He was alert and oriented. He has generalized scaling eruption involving the scalp, trunk and extremities. There was no mucous membrane and genital involvement. A diagnosis of exfoliative dermatitis due to antitubercular treatment was made because he was not taking any other medication. Anti-tubercular treatment was then withheld and he was started on corticosteroids (initially 1mg/kg)

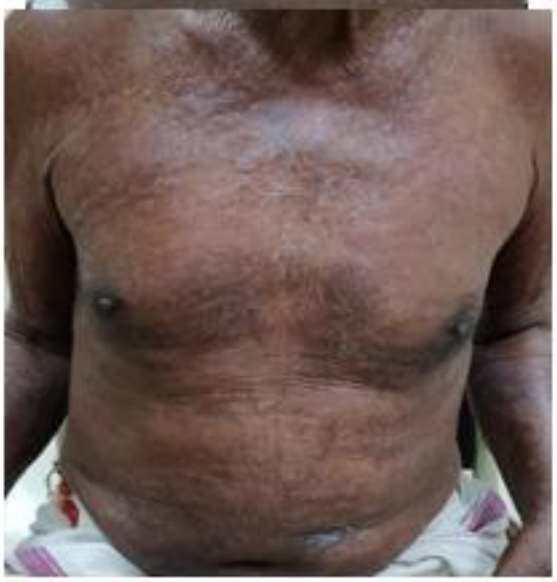
Further workup revealed a normal Total Leucocyte Count (TLC–10,100), Eosinophils-24%, Haemoglobin–12.2, ALP–266U/L,ESR-120.CXRs showed radiologically pleural effusion. Ultrasound chest revealed right moderate pleural effusion and left minimal pleural effusion.Pleural fluid analysis shows ADA-82,proteins 6.7gm/dl,sugars-48mg/dl, LDH-191U/L, Cell count-558cells/cumm, Celltypes include mononuclear-60% and polymorphs-40%. Serum LDH-228, TSH – normal, normal liver and kidney function test, Elisa for HIV negative and sputum smear examination negative for AFB.

Once his rash completely got resolved, drugs were reintroduced according to WHO recommendations. On reintroduction of isoniazid (50mg), he developed increase in itching and rash. Isoniazid was then withdrawn. After subsidence of rash rifampicin was also stopped. He responded in a similar way to both ethambutol, pyrazinamide and streptomycin. He has been continued on ofloxacin and azithromycin in continuation phase (daily regimen). Steroids were gradually tapered and stopped. The patient was presented for the first time after 5 days of onset of rash as depicted in the below images.

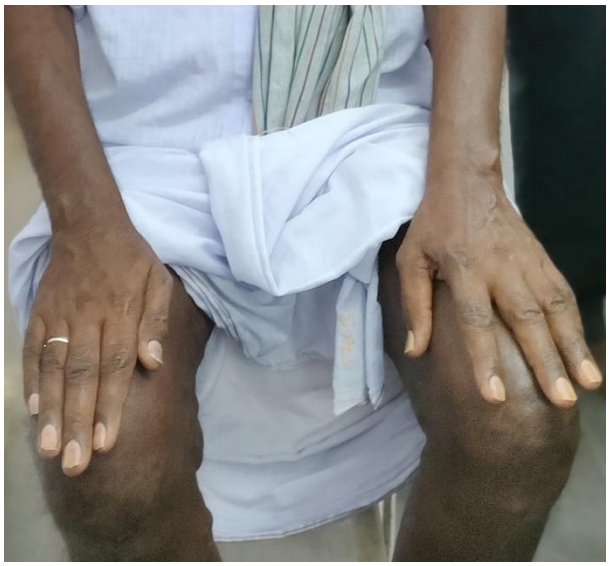








After one month of discontinuation of anti-tubercular drugs and use of ofloxacin and azithromycin



III. Discussion

Cutaneous adverse drug reactions (CADR) are one of the commonly observed major adverse effects of anti-tubercular therapy reported in 5.7% of tubercular patients. CADR associated with anti-tubercular treatment include morbilliform rash, erythema multiforme syndrome, urticaria, lichenoid eruption and other more serious ones like SJ syndrome and exfoliative dermatitis

SJ syndrome is rare but potentially fatal complication of anti-tubercular therapy. Thioacetazone was the possible causative agent in most of the cases but definitely not in all.

Exfoliative dermatitis or erythroderma is an erythematous rash, scaly dermatitis involving most, if not all, of the skin and results in massive scaly.

In a large territory care centre study on CADR with anti-tubercular drugs pyrazinamide was the commonest offending drug (2.38%), followed by streptomycin (1.45%), ethambutol (1.44%), rifampicin (1.23%) and isoniazid (0.98%).

Majority of cutaneous hypersensitivity reactions occurred within 2 months after the initial dose. In our case, patient develop erythroderma by the end of 10 weeks of treatment. He developed reaction to rifampicin, isoniazid, pyrazinamide, ethambutol and streptomycin. He tolerated ofloxacin and azithromycin.

Human immunodeficiency virus (HIV) infection, polypharmacy, advanced age, autoimmune disorders, and pre-existing renal or liver impairment were common pre-disposing conditions for development of CADR to anti-tubercular treatment. Workup of our patient relieve no risk factors except use of anti-tubercular drugs.

Sever hypersensitivity reactions to standard anti tubercular drugs are rare but they may be fatal. They usually commence after few weeks of therapy and must be recognised early to reduce associated morbidity and mortality.

IV. Conclusion

TB is a common problem in countries like India, and anti-tubercular therapy is used for its management. Hence dermatological manifestations due to anti tubercular drugs must gain attention. Upon the development of these manifestations, the patient may become noncompliant, which is the cause for treatment failure in TB patients. With the onset of cutaneous hypersensitivity, the drugs are stopped immediately and the patient is managed symptomatically. If the cutaneous reaction is not serious, desensitization can be attempted, but in serious cases re-challenge is contraindicated and the patient can be put on modified regimen which he can tolerate.

The single most important factor to prevent adverse patient outcome is education of the patient about the symptoms of cutaneous reactions, and prompt recognition and discontinuation of the drugs by the health care providers.

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