

Anti-tubercular treatment (ATT) induced Dermatological Adverse effects

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ABSTRACT:- In India, tuberculosis is often the first differential diagnosis one wants to rule out when suspecting a chronic debilitating infection or pyrexia of unknown origin. Anti-tubercular drugs are not known to cause dermatological adverse effects. Here we present 4 case reports where anti-tubercular treatment (ATT) was started for pulmonary and extra-pulmonary tuberculosis and all 4 patients developed dermatological adverse effects. Sequential re-introduction of drugs led to the identification of the offending drug and in one case required discontinuation and modification of ATT regimen.

Keywords:- Anti-tubercular treatment (ATT), Dermatological adverse effects, Extra-pulmonary Tuberculosis, Pulmonary Tuberculosis

I. INTRODUCTION

In India, tuberculosis is often the first differential diagnosis one wants to rule out when suspecting a chronic debilitating infection or pyrexia of unknown origin. There is a high burden of extra-pulmonary tuberculosis, up to 20% of all tuberculosis cases in HIV negative patients(1). Anti-tubercular drugs are known to cause many adverse effects, most commonly gastrointestinal including nausea and vomiting(2,3). Dermatological adverse effects are relatively less well known. Here we present 4 case reports where anti-tubercular treatment (ATT) was started for pulmonary or extra-pulmonary tuberculosis and all patients developed dermatological adverse effects. Sequential re-introduction of drugs led to the identification of the offending drug and in one case required discontinuation.

II. CASE 1

29 year old male, came with complaints of headache since 1 month. He gave history of being treated outside for pneumonia 1 month back. His symptoms continued to worsen and MRI Brain was suggestive of tubercular meningitis. A lumbar puncture was done to confirm the diagnosis. He was started on ATT (Isoniazid, Rifampicin, Pyrazinamide and Ethambutol) and steroids. His symptoms continued to worsen and MRI Spine was suggestive of spine involvement and he was diagnosed to have Disseminated Tuberculosis involving the meninges and the spine. After 2 weeks of ATT, he developed pustules on his trunk, back, and bilateral upper limbs. A skin biopsy was performed and was suggestive of acneiform eruption (Fig. 1). After a dermatological consultation, it was not deemed severe enough to discontinue ATT and was treated with Dermadew soap and Dermadew cream (emollient and moisturizer). It decreased over 2 weeks of daily application and completely subsided after 3 weeks. ATT was continued as per schedule.

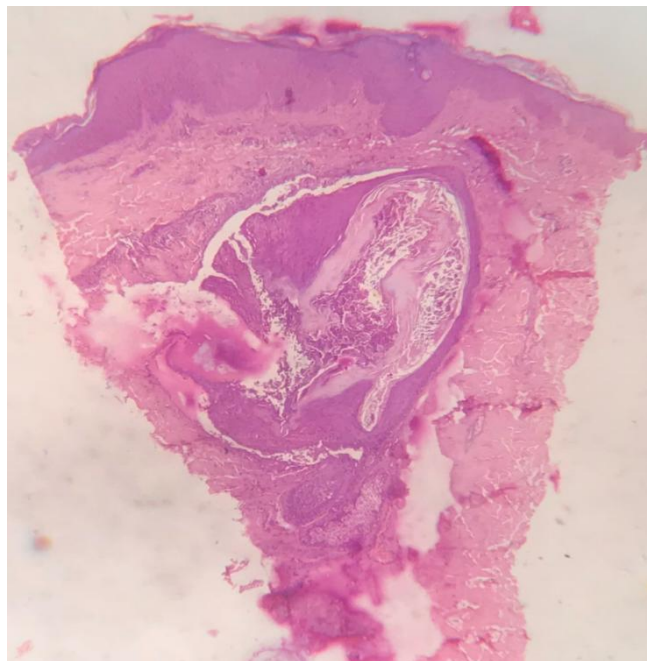


Fig. 1 – Dilated follicular infundibulum with an attenuated wall, filled with compact keratin and necrotic debris suggestive of an acneiform eruption.

III. CASE 2

An elderly female, nil comorbid, came with the complaints of pain abdomen and constipation since 2 months and low grade fever since 20 days. She was evaluated and diagnosed to have Abdominal tuberculosis. She was started on ATT (Isoniazid, Rifampicin, Pyrazinamide and Ethambutol) and was improving clinically. She took ATT regularly for 1 and half months after which she developed generalized itching, stopped ATT by herself and came to OPD. She was started on second generation anti-histamine, cetirizine at 10mg once daily dose. Her symptoms subsided and after 3 days, the fixed dose combination provided via DOTS was re-introduced. She developed similar generalized itching and redness all over her body after 1 day. ATT was discontinued and she was discharged on Cetirizine 10mg daily dose. After 2 weeks when she was asymptomatic, anti-tubercular drugs were re-introduced one by one and Rifampicin was found to be the offending drug. It was discontinued immediately and the rest of the drugs were introduced sequentially. She was switched over to modified anti-tubercular treatment and Moxifloxacin was added to Isoniazid, Pyrazinamide and Ethambutol as per the World Health Organization (WHO) guidelines for drug-resistant tuberculosis. She has improved clinically on follow up after 1 month.

IV. CASE 3

A young female, came with complaints of cough for more than 1 month. She was diagnosed to have pulmonary tuberculosis by positive sputum microscopy. She was started on Category-1 ATT (Isoniazid, Rifampicin, Pyrazinamide and Ethambutol). 1 month later, she developed pustules covering her face and was found to have acneiform eruption secondary to ATT. After dermatological consultation, ATT was continued and she was managed conservatively with Dermadew soap (emollient). She continued daily application for 1 month and her symptoms subsided.

V. CASE 4

An elderly male, smoker, came with complaints of cough of more than one month with scanty mucoid expectoration. He was diagnosed to have sputum positive pulmonary tuberculosis. He was initiated on Category-1 ATT as per the daily regimen guidelines with fixed dose tablets. 3 days post initiation, he complained of generalized itching all over the body with maculopapular rashes over all 4 limbs, upper limbs more than lower limbs. He was managed symptomatically with second generation anti-histamine, Cetrizine and moisturizer, Calamine lotion. In this particular case, the side-effects were not severe enough to warrant a discontinuation of ATT and patient showed improvement with symptomatic treatment after 1 week.

VI. DISCUSSION

ATT induced dermatological side effects are not very well documented. Studies attempting to fill that deficit are done over small time periods, in small settings and have showed urticaria as a common dermatological side effect with pyrazinamide being the most common offending drug(4). In an Indian study, allergic skin reaction was noted as an adverse drug reaction to ATT in 6 out of 102 patients(3). Our study found Rifampicin as the offending drug causing generalized itching and rashes all over the body which required discontinuation. There are isolated, uncommon cases where Rifampicin has caused licheniform eruptions and bullous lesions(5). Out of the 4 ATT drugs, isoniazid is considered to be a more common inducer of acne. It can cause skin eruptions and acne(6), usually not severe enough to warrant discontinuation. One study found cutaneous leukocytoclastic vasculitis as an adverse reaction to isoniazid, in an elderly male with Pott's spine(7). The value of the patch test is still uncertain but has been considered to identify hypersensitivity to ATT drugs(8).

VII. CONCLUSION

Although less common, dermatological adverse effects are a late manifestation of ATT regimen. It is a cause for concern as it decreases compliance and requires modified ATT regimens. Most of the adverse effects are not severe enough to discontinue the first-line drugs and patients must be made aware and re-assured regarding the same.

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