



Anti-tubercular Treatment Induced Rash: A Case Report

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ABSTRACT

Pulmonary tuberculosis is mainly caused by mycobacterium tuberculosis. About ¼ the of the population is infected by tuberculosis only 5-15% of people will fall ill with active tuberculosis disease rest of the population have tuberculosis infection but are not ill and cannot transmit the disease. Adverse drug reactions caused by anti-tuberculosis drugs are the most common adverse reaction in the clinical practice of anti-tuberculosis treatment. This is a case of a 19-years old male patient presented with a chief complaint of fever, cough with green sputum, shortness of breath, generalized weakness, headache, hoarseness of voice, weight loss, and HRCT reveals with pulmonary tuberculosis with secondary spontaneous pneumothorax.

Keywords: Adverse drug reaction, anti-tuberculosis drugs, pulmonary tuberculosis.

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CASE REPORT

A 19 years old male with no comorbidities presented with chief complaints of cough for three days, fever since one-day associated with chills, generalized weakness, headache, sore throat, unable to speak, shortness of breath since three days, grade II progressed to grade IV, weight loss since one month, greenery sputum. On examination, the patient's pulse rate was 112 beats per min, bp-100/60mmHg, CVS-S₁S₂ positive, bilateral air entry positive.

Laboratory findings:

Test	Value
Albumin	4
AST	36
ALT	20
ALP	285
CRP	98
ESR	72 for the first hour 113 for the second hour
SERUM ELECTROLYTES	
Sodium	141 mEq/L
Potassium	4.4 mEq/L
Chloride	96 mEq/L
SERUM BILIRUBIN	
Total serum bilirubin	0.39mg%
Blood urea	29 mg%
Serum creatinine	0.59mg%
Complete blood picture	
Hb	10.9g/dl
RBC	3.74 10 ⁶ units/L
WBC	14.8 10 ³ units/L
Platelet	209 X 10 ³ units/L

INTRODUCTION

Pulmonary tuberculosis is mainly caused by mycobacterium tuberculosis which primarily attacks the lungs¹. Spontaneous pneumothorax is defined as the sudden presence of air in the pleural cavity without apparent external cause. Spontaneous is of two types -1) primary pneumothorax 2) secondary pneumothorax. Primary spontaneous pneumothorax – rupture of subpleural pulmonary alterations known as blebs². Secondary spontaneous pneumothorax – is interpreted by radiological or clinically. secondary spontaneous pneumothorax is a complication of pulmonary tuberculosis. The relationship between pneumothorax and tuberculosis is altered. In this century 78% of secondary spontaneous rate was reported in patients with pulmonary tuberculosis with a 50% mortality.³ Adverse reactions of anti-tuberculosis drugs include drug-induced liver injury, gastrointestinal reaction, and skin rash. Skin rash is the second leading adverse reaction which is mild to moderate is often occurring of a skin rash and allergic shock may occur in some cases. Thus, healthcare should be cautious in dosing anti-tuberculosis drugs based on the severity of the rash. Drugs should be either stop or reduced severe skin rash and liver-toxic effects.⁴



Impression for RBC:

Anisocytosis

Hypochromia

Impression for WBC:

Lymphopenia

Monocytosis

Neutrophilia

His chest x-ray reveals right-sided pneumothorax bilateral cystic lesions and non-homogenous opacities positive. His HRCT chest shows right-sided pneumothorax with bilateral diffuse ground-glass opacity (GGO) with bilateral cystic bronchiectasis. Based on these findings they confirmed the patient is having a secondary spontaneous pneumothorax. His ICD note shows column movement positive with grade I on force expiration. Based on the above findings clinically diagnosed as pulmonary tuberculosis.

He was treated with medications that were Inj piptaz 4.5g IV TID, Cap doxycycline 100mg BD, T. ivermectin 12mg OD, Inj hydrocort 100mg IV TID, Inj pantoprazole 40 mg OD, T. pulmoclear TID, T. paracetamol 650 mg BD, Inj meropenem 1g IV BD, high flow oxygen inhalation, continued ATT drugs. After 6 days they have stopped ATT drugs for the patient because he developed the rash. On the 10th day by performing HRCT, they have diagnosed with secondary spontaneous pneumothorax. On discharge, the same medication was given and the patient is advised to follow up.

DISCUSSION

Pulmonary tuberculosis occurs when mycobacterium primarily attacks the lungs and pulmonary tuberculosis also known as consumption, spread widely as an epidemic during the 18th and 19th centuries in North America and Europe⁵.

Side effects and hypersensitive reaction to anti-TB remedy that manifests in lots of organs still stays difficult in treating TB patients. In excessive ACDRs, it's far advocated to withdraw the suspected drug so one can enhance signs and outcomes. Clinicians need to be very careful in determining the severity of ACDRs and to decide whether to stop the anti tb drugs also when to re-introduce the therapy with considerations⁶.

In this case, as patients also started with anti-tubercular therapy after a few days of therapy the patient developed a rash over his face. In TB cutaneous reactions are most

common in the intensive phase of treatment. These were managed with oral anti-fungal drugs for a short course along with the continuation of anti-tubercular drugs.

To avoid these types of rashes nowadays rechallenge therapy is most widely followed because it reduces the risk of the possible reaction of anti-tubercular drugs. The sequence of rechallenge drugs is still a debate but the most effective drugs in rechallenge are rifampicin and isoniazid should be used first because it is least likely to cause a reaction. 90% percent challenge reaction occurs within 72 hours. So close monitoring should be done while choosing rechallenge drugs⁷.

CONCLUSION

Anti-tubercular drugs rashes are most commonly caused by any one of the first-line drugs. So, the physician should be counselled regarding the reactions and their cause. Nowadays by rechallenge therapy, these reactions were minimized and it was found to be safe during the course of treatment by this we can improve the patient's quality of life.

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