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A Case Report

**A CASE REPORT ON ATT INDUCED HEPATITIS****N. Ravali\*, B. Sathiswara, R. Sidda Rama**

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**Article Received:** February 2021**Accepted:** February 2021**Published:** March 2021**Abstract:**

*Anti-TB drugs have shown that they are able to contain and kill Mycobacterium tuberculosis effectively; they are known to induce various adverse effects, including liver injury, skin reactions, gastrointestinal and neurological disorders. Anti-tuberculosis drug induced liver injury (ATLI) is one of the most important and serious adverse effects, which results in a low treatment success rate. Hepatitis adverse effect seen in tubercular suffered patient due to anti tubercular drug therapy. Case: In this case, the patient was receiving anti-tubercular drugs from 3 months and developed hepatitis which is a severe adverse drug reaction. Naranjo's causality assessment algorithm was used to assess the adverse effect and it indicated anti-tubercular drugs as probable cause of hepatitis.*

**Key Words:** Hepatitis, Anti-tubercular drugs, ADR Analysis, Re-Challenge and De-Challenge.

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**INTRODUCTION:**

According to WHO, one third of the population is affected by TB and 1 in 4 adult male deaths is attributed to TB.[1] The first line anti-TB drugs are potentially hepatotoxic. [3, 4] From first line anti-TB drugs, isoniazid (INH), rifampin (RIF), and pyrazinamide (PZA) causes hepatotoxicity such as transaminasitis and fulminant hepatic failure [2]. The incidence rate of anti-TB induced hepatitis was found to be 2% to 28% based on hepatotoxicity diagnosis criteria.

**CASE REPORT:**

A 45 years male patient was brought to the hospital with chief complaints of fever with chills, cough with sputum, joint pains, loss of appetite and general weakness. The patient was a chronic alcoholic for 10 years and he stopped 1 year back. History of tuberculosis for 6 months on treatment of Forecox. The provisional diagnosis was ATT (Isoniazid 300mg + Rifampicin 150mg) induced hepatitis so, ATT were stopped and hepatoprotector and anti virals i.e; L.asparaginase-5000IU -IV/BD, Lamivudine 100mg PO/OD was started. On Routine investigations Haemoglobin was slightly decreased to 12gm/dl with normal differential leucocytic count, Renal Function Test and with increased LFTs (TB-4.8mg/dl; DB-3.2mg/dl; SGOT-50 IU/L; SGPT-60 IU/L).

**Investigation:**

On the 1<sup>ST</sup> day, patient was brought to the hospital with pulse rate 102b/min, BP was found to be 100/80 mm of Hg with SPO2 98%, and complained with

fever with chills, cough with sputum, joint pains, loss of appetite general weakness. The patient was evaluated for U/S Abdomen, serology and received following medications. On 2<sup>nd</sup> day patient's U/S abdomen showed moderate hepatitis, splenomegaly and serology was normal. The physician continued the same therapy for 4 days and advice to monitor LFT's for evaluation. On 3<sup>rd</sup> day patient's LFT's were slightly decreased (TB-3.8mg/dl; DB-2.2mg/dl; SGOT-49 IU/L; SGPT-55 IU/L) as compared to 1<sup>ST</sup> day and advice to continue the therapy and monitoring of LFT's. So based on subjective and objective evaluation patient have experienced hepatitis due to usage of anti-tubercular drugs. Clinical evaluation was done and patient was treated symptomatically with Inj. Monocef (ceftriaxone) 1gm BD, Inj. Pan (pantoprazole) 40mg BD, Inj. Ondem (ondansetron) 2mg SOS, Tab. Hifenac (aceclofenac) 100mg OD, Tab. Dolo (Acetaminophen) 650mg TID, Inj. L-Asparaginase 5000IU/L IV/BD, Inj. Lamivudine 100mg OD.

**ADR Analysis****Causality assessment:**

After collecting the past and current history from the patient, ADR Analysis was done by using naranjos scale, WHO-UMC are shown in Table -1.

The drug produce hepatitis is anti-tubercular drugs (Isoniazid 300mg + Rifampicin 150mg). Here we also performed severity, predictability and preventability scales shown in Table-2.

**Table -1 Causality assessment of suspected drugs.**

SL No.	ADR Scales (CAUSALITY ASSESSMENT)	SUSPECTED DRUGS FOR CAUSING ADR	
		ISONIAZID	RIFAMPICIN
1.	Naranjo's Scale	Probable (6)	Probable (6)
2.	WHO probability scale	Unclassifiable	Unclassifiable

**Table2: Severity, Predictability and Preventability scales.**

CAUSALITY ASSESSMENT	SUSPECTED DRUGS FOR CAUSING ADR	
	ISONIAZID	RIFAMPICIN
Severity	Moderate	Moderate
Predictability	Predictable	Predictable
Preventability	Preventable	Preventable

**DISCUSSION:**

Anti-TB drugs induced hepatitis is a serious problem and it was reported that 2-28% of TB patients experience drug related hepatotoxicity (DIH) during the course of the treatment. The incidence rate of drug induced hepatotoxicity in India is 8-36%. The higher incidence of DIH was found in the Asian countries which may be due to ethnic susceptibility, inherent peculiarity of drug metabolism and/or the presence of various known risk factors such as Hepatitis, malnutrition, and alcoholism. Alcoholism is one of the main risk factors which aggravates the anti-TB induced hepatotoxicity. In this case, the patient is chronic alcoholic and consumed large amounts of alcohol which may lead to following liver conditions – fatty liver, hepatitis and cirrhosis. In this case, hepatitis was seen in the patient.

**CONCLUSION:**

Patient developed ATT induced hepatitis following the administration of 1st line anti-TB drugs, which were administered for the treatment of pulmonary koch's. Following the standard treatment and standard care, we were able to achieve a favourable outcome. Clinicians need to be made aware of these potentially fatal adverse effects associated with anti-TB drugs.

**CONFLICT OF INTERESTS**

The authors have declared that they have no conflict of interest.

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