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RISK FACTORS AND DEMOGRAPHIC CHARACTERISTICS FOR HEPATITIS DUE TO MEDICATION IN PATIENTS OF TB

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Abstract:
Objective: *This study was aimed to know about risk factors and demographic characteristics for anti-tuberculous drugs influence hepatitis (ATDH) amongst tuberculosis patients.*
Study Design: *A retrospective study.*
Place and Duration: *We held this study by collecting the patients' data of 03 years from January, 2016 to December, 2018 at Gastroenterology and Pulmonology department of Mayo Hospital, Lahore.*
Methodology: *The medical records of tuberculosis 3060 cases were reported for three years was collected and data analyzed for ATDH. Written permission was taken from the ethical committee of Hospital. TB inclusion criteria identified based on the National Tuberculosis Program (NTP) was documented. ATDH and Non-ATDH data was analyzed in the SPSS-20 and full fisheries and chi-square tests.*
Results: *A total of 153 cases were diagnosed as ATDH which comprise of51 (33.33%) females and 102 (66.67%) males, 43.20 years was the mean age, SD 9.50 treatment and ATDH as follow up period were selected for the study. ATDH in patients was found to be significant statistically (P=0.0001, OR: 13.92) (OR: 7.6, P=0.0002) and (OR: 11.3, P=0.0001) was the difference among intravenous injection ATDH and HIV infection.*
Conclusion: *ATDH had the maximum prevalence among patients suffering from HCV, HIV and IVDU infection.*
Key words: *ATDH, tuberculosis, drug-induced hepatitis, national tuberculosis program (NTP).*

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INTRODUCTION:

A most important public health issue globally is Tuberculosis (TB) [1]. Mycobacterium tuberculosis infect 1/3rd of the world's population, and it is estimated that each year 800,000 new cases of tuberculosis occur [2]. In Pakistan, it is an important reason of mortality and morbidity [3]. National Tuberculosis Program (NPT) TB management is divided into two phases, isoniazid, rifampicin, pyrazinamide and ethambutol are standard 06 months. The intensive phase continued with isoniazid and rifampicin in the second phase and then two more with four drugs. The utmost serious and common side effects of isoniazid, pyrazinamide and rifampicin is Hepatotoxicity and may cause these reactions in the treatment of tuberculosis [3]. Earlier studies have shown that patients treated with a standard combination therapy against tuberculosis containing approximately 10%, isoniazid and rifampicin, aspartate amino-transferase (AST) and alanine amino-transferase (ALT), such as suddenly rise in serum hepatocellular enzymes 1% to 2% most hepatic reactions are attributed to fámaco[4,5]. 08 risk factors (ATDH) due to hypersensitivity to antituberculosis drugs, but some hepatitis caused by hepatitis. These are phenotype, age acetylated, poor nutrition, alcoholism, HIV infection and chronic hepatitis B infections and ADDH may increase risk of hepatitis C [6,7]. Other factors are promoted comprise the co-administration of tuberculosis, Asian ethnic, female, e.g inducing enzymes (anesthetic agents and barbiturates) and improper drugs use. Pancreatic liver dysfunction generally occurs during the initial weeks of intensive phase of tuberculosis treatment [8]. Patient education, especially with risk factors for hepatitis symptoms and laboratory follow-up (AST and ALT) is needed to enhance the outcome of hepatitis patients who are affectedduring TB treatment. This study was managedto find out the risk factors for ATDH in TB patients, considering the lack of studies on epidemiology to assess ATDH risk factors resulting from Ahvaz NPT regimen.

MATERIALS AND METHODS:

Present retrospective study was held in Mayo Hospital, Lahore in Gastroenterology and Pulmonology department for three years period from January, 2016 to December, 2018 after the approval from the ethical committee of the Hospital. The medical records of tuberculosis 3060 cases reported for three years was collected and analysis of data was carried out for ATDH. TB inclusion criteria identified based on the National Tuberculosis Program (NTP) has been documented. Criteria for diagnosis for Positive pulmonary tuberculosis (PTB +) spread with two positive cases for acid-acid bacilli at least (SSP-ARB), chest radiography suggesting Bacillus or tuberculosis plus M. tuberculosis and SSP-defined AFB-positive SSP-AFB or marrow culture. Clinical findings are defined as TB plus negative pulmonary tuberculosis (PTB) antibiotic treatment with more C-X (implanted TB) and three negative sputum smears (SSK-ARB) two weeks later. Other diagnostic criteria were tuberculosis, meningitis, and computerized tomography and microbial studies. Analysis of miliary or extrapulmonary tuberculous cerebrospinal fluid was carried out. The diagnosis of ATDH is based on clinical findings of high ALT and laboratory results. Patients had one of the following, especially the ATDH diagnosed that there was no obvious reason for liver function tests.

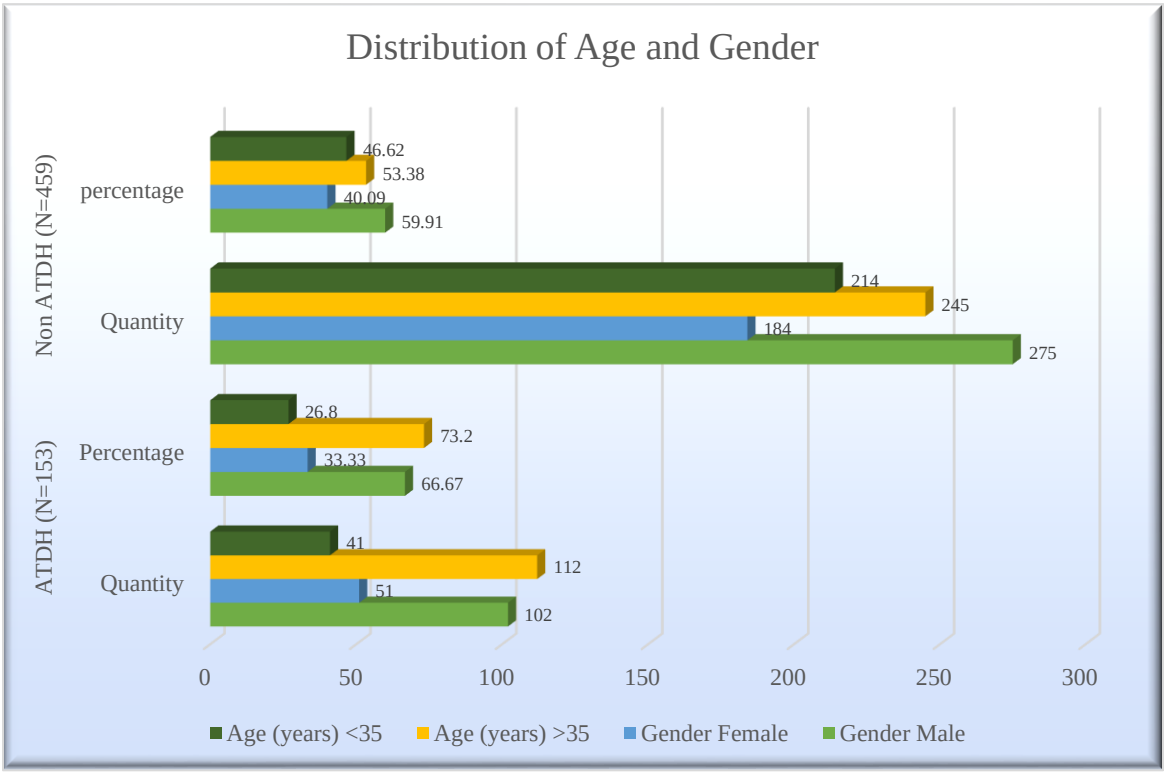
Serum is 5 times above the normal limit of ALT (40 U / L) and the absence of hepatitis symptoms and other symptoms. Clinical hepatotoxicity was diagnosed if ALT ATDH symptoms were elevated, including vomiting, nausea, jaundice and weakness. Patients with ALT at high baseline were not included in the study. For each drug induced anti-tuberculous hepatitis case, without ATDH three patients were selected randomly as controls. Medical history, demographic characteristics, HIV, incarceration, HCV drug dependence, HBV serologic, underlying diseases, TB treatment in both cases (ATDH patients) and side effects of medication and other health problems during control. The data was analyzed in the SPSS-20 and with full fishery tests and chi-square. In this study, TB patients are followed for 12 months (months, 3, 6, and 12) after treatment (6 months minimum) and after treatment completion. ATDH and follow-up were recorded throughout the treatment period.

RESULTS:

By the NPT regime, 612 cases were treated. Male were 378 (61.76%) and female were 234 (38.24%). During the treatment and follow-up period, a total of 153 patients (5%), including females 51 (33.33%) and (66.67%)102 were male, 43.2 years was the mean age and 9.5 SD were recorded as ATDH.

Table No 01: Distribution of Age and Gender

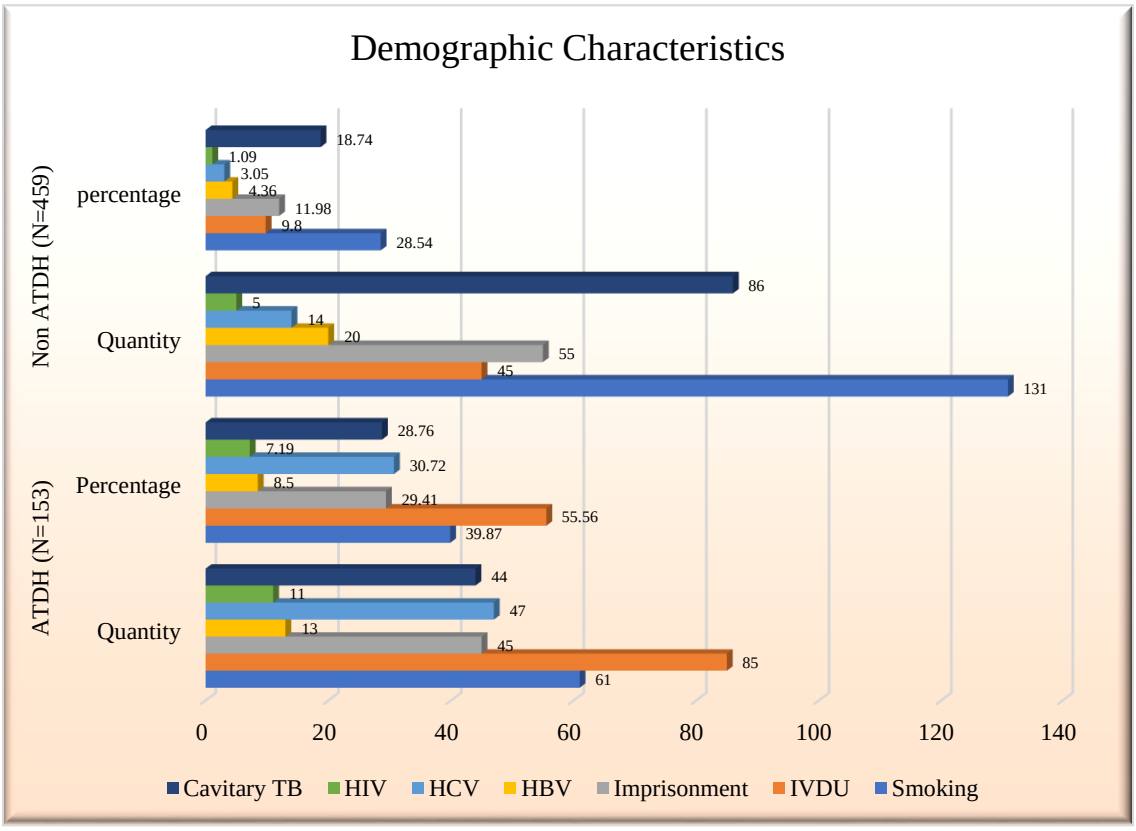
Variables		ATDH (N=153)		Non ATDH (N=459)		P-value
		Quantity	Percentage	Quantity	percentage	
Gender	Male	102	66.67%	275	59.91%	0.070
	Female	51	33.33%	184	40.09%	
Age (years)	>35	112	73.20%	245	53.38%	0.0001
	<35	41	26.80%	214	46.62%	



In 94 (61.43%) patients, in the first two months ATDH occurred after treatment. With ATDH associated 03 (1.96%) deaths occurred only. Previous viral infections (B and C) were found in 60 cases (39.22%), with incarnation and intravenous drug injection in the majority 120 (78.43%). Other results of non-ATDH (control) and ATDH (case) are given in Table No 02 below.

Table No 02: Demographic Characteristics and Risk Factors for Drug Hepatotoxicity of Our Study

Variables	ATDH (N=153)		Non ATDH (N=459)		P-value
	Quantity	Percentage	Quantity	percentage	
Smoking	61	39.87	131	28.54	0.003
IVDU	85	55.56	45	9.80	0.0001
Imprisonment	45	29.41	55	11.98	0.0001
HBV	13	8.50	20	4.36	0.040
HCV	47	30.72	14	3.05	0.0001
HIV	11	7.19	05	1.09	0.0001
Cavitary TB	44	28.76	86	18.74	0.004



DISCUSSION:

In this age of work, they were considered to inject risk factors for smoking, drug dependence for ADHD, imprisonment, alcohol consumption, viral hepatitis and HIV coinfection [9,10]. The rate of HCV infection was statistically significant (p = 0.0001, OR: 14.2) in patients without ATDH ATDH, in fact, HCV patients were higher than those who were negative for HCV risk. Similar findings were found in other studies. As in other studies, we found a

relationship between HBsAg positivity and hepatotoxicity development. In fact, the effect of HBV infection is much less than the effect of HCV [11,12,13]. This can be attributed to routine inoculation against HBV since it is not possible to achieve a full effect of each risk factor. As a result, it was difficult to establish a close relationship with different parameters, such as associating hepatotoxicity with these parameters [14,15]. Moreover, since most of the participants in our study were weak, it was difficult to see the relationship between malnutrition and hepatotoxicity. Because the study takes place only in a health center located in one district, the economic status of the whole country and the representation of the ethnic group may be a problem.

CONCLUSION:

As in previous studies, smoking has been considered as risk factors for ADHD, including injecting drug dependence, incarceration, viral hepatitis, alcohol consumption and HIV coinfection, HCV infection, infection. By IVDU and HIV, we recommend that patients who are infected with HIV, HCV, and who are dependent on IVD should undergo an initial liver function screening test and be followed closely with the follow-up tests during treatment. We also recommend further study to investigate why these risk factors contribute to the hepatotoxicity development and to elaborate in detail the risk factors not addressed in this study.

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