



STUDY OF ASSOCIATION BETWEEN ACUTE LIVER INJURY AND INFLAMMATORY MARKERS IN COVID-19 PATIENTS

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ABSTRACT

Liver impairment is an emerging concern with COVID-19. The elevated levels of alanine aminotransferase and reduced platelet counts and reduced levels of albumin showed an association with higher fatality in COVID-19 patients. Serum concentrations of pro-inflammatory cytokines, including CRP, TNF- α , LDH, and IL-6 were seen at elevated levels in most of the severe cases, indicating cytokine storm syndrome might be associated with the disease severity.

KEYWORDS : COVID19, Acute Liver injury, Liver enzymes, inflammatory markers

INTRODUCTION

The Coronavirus pandemic represents an extraordinary test to the global medical services framework. Albeit the lung is the principal target organ of SARS-CoV-2 contamination; harm can happen in different organs[1]. The liver is the fundamental organ in the human body & its openness to the viral particles may be an extra worry for Coronavirus patients. Liver debilitation is an arising worry with Coronavirus 19. The raised degrees of alanine aminotransferase & decreased platelet counts & diminished degrees of egg whites showed a relationship with higher casualty in Coronavirus patients. Serum groupings of favorable to fiery cytokines, including C-responsive protein (CRP) TNF- α , IL-1 α , & IL-6 were seen at raised levels in a large portion of the serious cases, demonstrating cytokine storm disorder may be related with the sickness seriousness[2&3]. It is likewise viewed as that foundational contaminations would impact liver capabilities in a serious illness course. Further clinical examinations can give a superior understanding on liver harm in serious patients with SARS-CoV-2 contamination[4]. This audit sums up the accessible information on liver test anomalies in Coronavirus patients; basically assesses the potential reasons for liver injury & its relationship with provocative markers & gives suggestions to clinicians[5].

In December 2019, an irresistible serious intense respiratory disorder was accounted for in China, viewed as brought about by a Covid. At first named as 2019 novel Covid (2019-nCoV), the infection was subsequently named as SARS-CoV-2. This infection has been accounted for to have a few elements of SARS-CoV detailed in 2003 & MERS-CoV revealed in 2012. On 11 Walk 2020, the WHO pronounced Coronavirus (Covid illness 2019) as a pandemic, which has brought about in excess of 22 million diseases with 781 932 passages overall until 19 August 2020. As of now, the essential indicative instrument to distinguish instances of SARS-CoV-2 contaminations is ongoing converse transcriptase polymerase response (RT-PCR) from nasopharyngeal swabs & bronchoalveolar lavage liquids. Fast antigen testing & estimations of immune response titre are likewise led for observation testing[6&7].

Table1: Association of IL-6 With Acute Liver Injury

	Severity	Normal	Raised	Total	P-value
1.	Mild	17(25.8%)	15(11.2%)	32	0.023 Chi-square test
2.	Moderate	8(12.1%)	14(10.4%)	22	
	Severe	41(62.1%)	105(78.4%)	146	
	Total	66(100%)	134(100%)	200	

The above table shows the distribution of study population According to IL-6 and severity of Hepatic injury. Raised IL-6 were 134 cases, out of which 105(78.4%) showed severe hepatic injury. P Value is statistically significant.

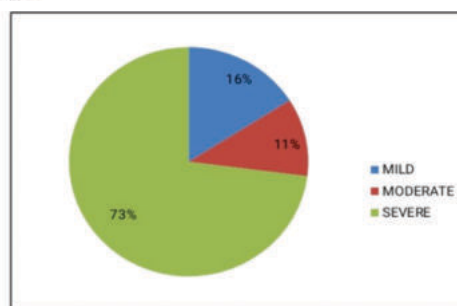


Figure 1: Distribution of study population according to severity (in %)

Table 2: Association of D-Dimer With Acute Liver Injury

	Severity	Normal	Raised	Total	P-value
1.	Mild	24(53.3%)	8(5.2%)	32	0.0001 Fisher's Exact test
2.	Moderate	11(24.4%)	11(7.1%)	22	
	Severe night	10(22.2%)	136(87.7%)	146	
	Total	45(100%)	155(100%)	200	

The above table shows the distribution of study population According to D-DIMER and severity of Hepatic injury. Raised D-DIMER were 155 cases, out of which 136(87.7%) showed severe hepatic injury. P value is statistically significant.

Population**Case Series**

Total study participants were 200. 129(64.5%) were males, 71(35.5%) were females. According to age group, 18/200(9.0%) were <40 years, 89/200(44.5%) were 40-60 years, 81/200(40.5%) were 60-80 years, 11/200(5.5%) were belong to 80 years and above. According to severity, 32/200(16.0%) were mild severity, 22/200(11.0%) were moderate severity and 146/200(73.0%) were severe. Based on clinical outcome, 55/200(27.5%) were death and 145/200(72.5%) were clinically cured among the study population.

CONCLUSIONS

The novel corona virus infection shows significant morbidity and mortality by affecting various organ system. Rise in various inflammatory markers is associated with severity. Incidence of liver injury in covid patients were documented. Following covid infection, there is significant risk liver injury by various ways. It is concluded that physician should strongly advised to assess various inflammatory markers and liver enzymes to prevent the severity of disease in covid-19 patients. Early prevention and appropriate management significantly affect the outcome of covid-19 infection.

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