

**P31 COVID-19 INDUCED HEPATITIS (CIH), DEFINITION AND DIAGNOSTIC CRITERIA OF A POORLY UNDERSTOOD NEW CLINICAL SYNDROME**

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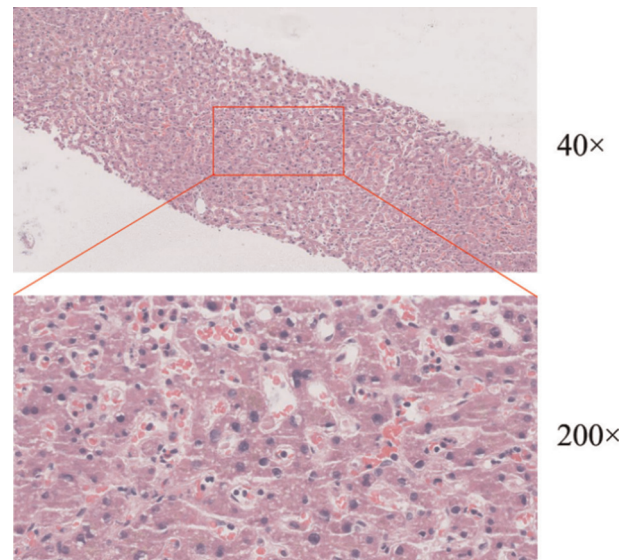
**Background** Covid-19 Induced Hepatitis (CIH), is a novel terminology which is used in this article for the first time in the medical literature.

**Objective** To study the pattern of liver impairment in patients with Covid-19 as well as to find acceptable and practical diagnostic criteria of Covid-19 Induced Hepatitis (CIH). This review article gives new insight and guidance about the diagnosis of Covid-19 Induced Hepatitis (CIH), possible causes of liver damage and review of recently published data about the impairment of liver function in Covid-19 patients.

**Methodology** Extensive literature review of newly published data and study in PubMed cited journals and other international publisher journals. Research of all studies that reviewed liver derangement in COVID-19 were mainly reviewed. Statistical analysis of submitted data were checked using SPSS. PubMed Chinese language versions were also used.

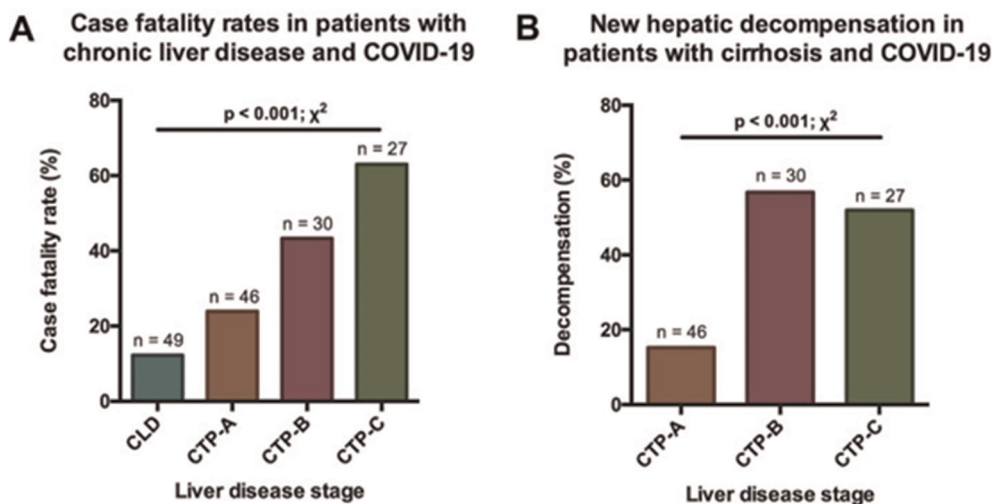
**Results** 60% of patients with SARS can have abnormal liver functions. Aspartate Aminotransferase (AST) and Alanine Aminotransferase (ALT) have noticeably been abnormal in around 14–53% of patients with Covid-19 (7/114, 6.14%) ( $P > 0.05$ ). Impairment in liver enzymes, mainly ALT/AST, in severe Covid-19 pneumonia was significantly higher than patients with mild disease, with mean average ( $37.87 \pm 32.17$  vs  $21.22 \pm 12.67$ ;  $38.87 \pm 22.55$  vs  $24.39 \pm 9.79$ ,  $P < 0.001$ ). Patients with Community Acquired Pneumonia (CAP) had significantly less impaired liver synthetic function (32/114, 28.07%) compared to Covid-19 pneumonia (60/115, 52.17%), which has been demonstrated with high INR ( $P < 0.01$ ). Mild sinusoidal dilatation with lymphocyte infiltration, minimal, has been displayed in the liver tissue of 114 deceased with Covid-19 and liver impairment, which was obtained in one hour after their death (figure 1). Fatality among Covid-19 and CLD with Child T-P score A was 23.9%, and Child T-P score B 43.3%

with 63.0% fatality among patients with Child T-P score C, Moon AL. (Figure 2A-B) Acute liver failure in Covid-19 has been reported only in 2 occasions, one adult, and infant who had recent liver transplant.



**Abstract P31 Figure 1** Sinusoidal dilatation with lymphocytes infiltration (courtesy of zhangy)

**Conclusion** Covid-19 Induced Hepatitis (CIH) is a new clinical syndrome, which can be defined as a ‘benign new transient hepatitis in a SARS-CoV-2 patients which is characterized by the following; Gradual onset, elevated AST and ALT, Dilated sinusoids with lymphocytic infiltration of liver parenchyma, non-Obstructive jaundice, stable Underlying liver disease and no Radiological new hepatobiliary changes.’ Using GADOUR criteria may support the diagnosis, however, sensitivity and specificity are yet to be established. Meticulous statistical studies need to be done before establishing overly sensitive scoring system can be reached.



**Abstract P31 Figure 2** (A) Associated between mortality of covid-19 patients and child T-pugh score (courtesy of moon AL); (B) Liver decompensation by the stage of cirrhosis. (courtesy of moon AL)