

FREQUENCY, CLINICAL PRESENTATION, AND OUTCOME OF ACUTE-ON-CHRONIC LIVER FAILURE AMONG DECOMPENSATED CIRRHOSIS OF LIVER PATIENTS IN A TERTIARY CARE HOSPITAL

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Background: Acute-on-chronic liver failure (ACLF) is characterised by the presence of organ failure in patients with decompensated cirrhosis and is associated with high short-term mortality. Different international entities have taken initiatives to define the condition in different times but recommendations and definitions from The European Association for the Study of the Liver- Chronic Liver Failure (EASL-CLIF) Consortium Acute-on-Chronic Liver Failure in Cirrhosis (CANONIC) study are most comprehensive and widely accepted till date. Only limited data are available on the prevalence, clinical characteristics, and short-term outcomes of ACLF in Bangladesh. It would be very useful for clinicians to identify patients with ACLF early and initiate focused therapy including referral to transplant centers if these data are available.

Objective: To evaluate frequency, clinical presentation, and outcome of acute-on-chronic liver failure among decompensated cirrhosis of liver patients. **Methods:** This prospective observational study was carried out at the Department of Gastrointestinal, Hepatobiliary and Pancreatic Disorders (GHPD), BIRDEM General Hospital, Shahbagh, Dhaka, Bangladesh from July, 2019 to September, 2021. Total 175 patients with decompensated cirrhosis of liver were screened, out of which 22 patients dropped out due to various reasons. Purposive type of non-probability sampling technique was used. Formal ethical clearance was taken from the IRB and ethical measures were ensured in concordance with the Declaration of Helsinki. An informed written consent was taken from all participants. Diagnosis of decompensated cirrhosis was based on clinical, biochemical, radiological and endoscopic findings. Laboratory data sent within 24 hours were collected. Oxygen saturation was measured using fingertip pulse oximeter. Investigations for ACLF triggers were done as necessary which included but not limited to urine routine and microscopic examination, urine culture, blood culture, and Anti HEV IgM. Patients' prognosis and survivability were observed by follow up phone call at 30 days. All data were recorded in a separate case record form and finally, it was analyzed by SPSS 23. **Results:** Out of 153 patients, 49 patients (32%) had ACLF: grade 1 ACLF in 26 (17%), grade 2 in 18 (11.8%), and grade 3 in 5 (3.3%) patients. Patients had an average age of 59.54±11.55 years with no significant difference between ACLF and no ACLF groups. Most patients in both groups had others (NAFLD, autoimmune hepatitis, secondary biliary cirrhosis, none) as the main underlying cause of cirrhosis. Bacterial infection, GI bleeding, HEV infection, reactivation of HBV were the precipitating events in 81.6% of patients with ACLF, with bacterial infection being the most common trigger (63.3%). Overall, 44.9% ACLF patients died within 30 days of admission. Older age, male sex, hepatic encephalopathy, GI bleeding, presence of any trigger and higher CTP score were associated with increased risk of death in ACLF. **Conclusion:** Follow up of 153 patients with decompensated cirrhosis of liver revealed that 1 in 3 patients had ACLF and 44% of them would die in 30 days. Bacterial infection and GI bleeding were the most common triggers of ACLF. Early identification and intervention with multidisciplinary approach and referral to transplant centers are likely to improve survival outcomes in this population.

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