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A PROSPECTIVE STUDY ABOUT ETIOLOGY OF CHRONIC LIVER DISEASES, NATURE OF ACUTE HEPATIC ASSAULTS, CLINICAL COURSE, AND PROGNOSIS OF PATIENTS WITH ACUTE-ON-CHRONIC LIVER FAILURE IN BANGLADESH

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Background: The entity of acute-on-chronic liver failure (ACLF) is not clear in Bangladesh and other developing countries. Accordingly, proper and timely diagnosis is difficult, management is elusive, and prognosis is poorly documented. A prospective study was conducted to address these issues in ACLF patients from Bangladesh.

Case: Thirty-two patients with ACLF, who attended consecutively at the only postgraduate university hospital of Bangladesh, were enrolled in this study. All patients had diagnosed or undiagnosed chronic liver disease and they developed jaundice and coagulopathy, complicated within 4 weeks by ascites, and/or encephalopathy. The causes of underlying chronic liver diseases were explored from the history of illness, assessment of biochemical parameters of liver function test, hepatitis viruses, ultrasonography, and gastrointestinal endoscopy, and liver histology. The nature of acute assaults was assessed from the history of illness and evaluation of markers of hepatitis viruses. The patients were followed up for 90 days after hospital admission to develop insights about the clinical course and prognosis.

Result: The age of the patients ranged from 17 to 75 years. Twenty-five were male and 7 were female. The levels of serum bilirubin was >5 mg/dL in all patients during admission range 5–25.5 mg/dL. Ascites were detected in all patients and 13 patients developed encephalopathy. Hepatitis B virus (HBV) seems to be the main cause of chronic liver diseases, 25 of 32 (78%) patients. Four patients had cryptogenic liver cirrhosis. Non-alcoholic steatohepatitis, alcoholic hepatitis, and autoimmune hepatitis were detected in 3 patients. Concerning the acute assaults, IgM anti-hepatitis E (HEV) was detected in 17 of 32 (53%) patients. The other causes of acute assault were flare of HBV in 3 patients, use of chemotherapeutic agent in 1 patient, and septicemia due to unexplored reasons in others. Seven patients died during the observation period of 90 days, 1 died within 15 days, 1 died within 45 days, and 5 died within 60 days. Encephalopathy was detected in all patients who died.

Discussion and Conclusion: HBV is endemic in Bangladesh and is the major etiological factor of chronic liver diseases.

Recent studies indicate that HEV has replaced hepatitis A as the dominant etiological agent of acute hepatitis in Bangladesh. This study has shown that patients of chronic liver diseases in Bangladesh and other developing countries should be cautious about contaminating food and water that may contain HEV. Also, the patients should consult with physicians as soon as they feel anomaly in their physical conditions for containment of ACLF.

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HEPATIC STEATOSIS—QUANTIFICATION BY NON-ENHANCED CT SCAN

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Background: Hepatic steatosis of over 30% is found to be detrimental for graft function after liver transplantation. Although most centers rely on liver biopsy for quantitative estimation of fatty change, CT scan has shown promise for noninvasive estimation of the steatosis recently.

Aim: To assess the accuracy of the estimation of hepatic steatosis using noncontrast CT scan-based liver and spleen attenuation difference (L–S) and liver and spleen attenuation ratio (L/S).

Materials and Method: Using noncontrast CT scans, liver and spleen attenuation values were obtained (average of 10 regions of interest [ROI] of the right lobe, left lobe, and the spleen) from 50 patients undergoing elective laparotomy. L–S and L/S values were determined by experienced blinded radiologist. After informed consent, intra-operative Tru-Cut liver biopsy (1.5 cm core, 18 G needle), one from each lobe of the liver, was obtained. Frozen section analysis with Oil red O staining was done followed by H & E staining. The fatty change was estimated by a semiquantitative method by an experienced pathologist, unaware of radiology finding. Both the biopsies from each patient (thus, making a sample size of 100) were used for analysis. Correlation among L–S, L/S, and % fatty change was analyzed using Pearson correlation. Receiver operating characteristic (ROC) curve analysis was done for finding the sensitivity and specificity of the fatty indices for estimating >30% fatty change in the liver.

Result: There was a significant correlation between the fatty indices and the percent fatty change (−0.66 for L–S and −0.60 for L/S). However, on ROC curve analysis, the AUC for >30% hepatic steatosis for L–S and L/S was 0.2. There was no point of balance between the sensitivity and specificity.

Conclusion: L–S and L/S are not reliable indices for the quantitative estimation of fatty change of >30%.