

FACTORS ASSOCIATED WITH RENAL DYSFUNCTION IN HCV RELATED LIVER CIRRHOSIS AND ITS RELATION WITH CHILD PUGH SCORE

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INTRODUCTION:

Liver cirrhosis is associated with significant morbidity and mortality. Prevalence of HCV in Pakistan is 6.8%. Renal dysfunction is a common complication in patients with decompensated liver cirrhosis. Acute kidney injury occurs approximately in 19% of hospitalized patients with cirrhosis. Chronic kidney disease occurs in 1% of all patients with cirrhosis.

AIMS:

To assess factors associated with Renal dysfunction in HCV cirrhosis, correlate renal parameters with Child Pugh score and find a cut off value of Child Pugh score to determine renal dysfunction.

MATERIALS AND METHODS:

It was a cross sectional study which included 70 cases of liver cirrhosis secondary to HCV from a period of Jan '18-June '18 at CMH Multan. Diagnosis of HCV was confirmed by serological assay and liver cirrhosis by ultrasonography. Child Pugh score was determined and lab reports were taken on the same day. Patients were divided into two groups as not having renal dysfunction (serum creatinine ≤ 1.5 mg/dL) and having renal dysfunction (serum creatinine ≥ 1.5 mg/dL). eGFR was calculated by CKD-EPI Collaboration formula. Data was analyzed using SPSS v23.0. Chi square, Kruskal Wallis test and Pearson coefficient of correlation was applied. ROC curve was drawn to evaluate cut off value of Child Pugh score for presence of renal dysfunction. Level of significance was set at $P < 0.05$.

RESULTS:

Out of 70, 30(42.8%) developed and 40(57.2%) did not develop renal dysfunction. Patients with ascites and encephalopathy are prone to develop renal dysfunction as well ($P=0.000$, OR 32.6; $P=0.012$, OR=3.5 respectively). Patients with Child Pugh grade B or C develop renal dysfunction as compared to patients with Child Pugh grade A ($P=0.000$). Mean age, urea, creatinine, eGFR varies significantly among patients who develop renal dysfunction and patients who do not ($P=0.02$ $P=0.000$, $P=0.000$, $P=0.000$). eGFR negatively correlates with CP score ($r=-0.359$, $P=0.002$). Creatinine, urea and ALBI score positively correlates with CP score ($r=+0.417$, $P=0.000$; $r=+0.757$, $P=0.000$; $r=+0.362$, $P=0.002$). Area under ROC curve was 0.730 ($P=0.001$) for 95% confidence interval. Cut off value of 8.5 shows 80% sensitivity, and 60% specificity.

CONCLUSION:

Ascites and Encephalopathy are associated with renal dysfunction in HCV cirrhosis. Patients with Child Pugh B and C have renal dysfunction as compared to Child Pugh A. Greater the CP score greater is the extent of renal injury. A cut off value of CP score 8.5 is highly sensitive to detect renal dysfunction in HCV related liver cirrhosis.

KEYWORDS: Renal dysfunction, Liver cirrhosis, Child Pugh score