

# Abstract

- **Background:** Hepatorenal syndrome (HRS) is a “functional” and reversible form of renal failure that occurs in patients with advanced chronic liver disease. Doppler ultrasonography is a non-invasive tool for the assessment of vascular patency and has been used to measure hepatic arterial and venous flow in patients with portal hypertension. Several studies have reported that the reciprocal of cystatin C correlates better with GFR than does the reciprocal of creatinine. **Methods:** 40 patients, of whom 10 persons were normal volunteers taken as a control group, Group A patients (No. =20) with liver cirrhosis and normal renal functions had been followed up for an average of 12 months searching for development of hepatorenal syndrome HRS. **Results & conclusions:** During the follow up, 5 patients developed HRS, serum cystatin level showed a more statistically significant rise in the same patients with higher P value. Using ROC curves support an advantage of cystatin C over serum creatinine. Using multiple variables in cox regression model, we found that the risk of death is higher if increasing cystatin c with highly significant value (P value 0.001). When used ROC curves for R.I. RI at a level of 0.66 showed 80% sensitivity and 90% specificity.

**Key Words:** (hepatorenal syndrome; serum cystatin C; renal resistivity index)