ABSTRACT

INTRODUCTION
Renal function is an important indicator of the state of health of kidney. The impairment in renal function of varying severity, is common in patients with liver diseases. It has significant impact on the outcome of liver disease. The overall, prevalence of renal dysfunction in various subgroups of liver disease namely hepatitis, cirrhosis and advanced liver disease associated with ascites and edema, is mostly unknown. The renal dysfunction can lead to increased morbidity and mortality in patients suffering from liver diseases.

AIM
The overall aim of the present study was to assess renal function in patients suffering from liver diseases.

MATERIALS AND METHODS
The prospective, observational, case-control study was conducted in the Department of Gastroenterology, Delhi Heart Institute and Research Centre, at Bathinda (PB.), during the period from Jan. 2010 to Jan. 2012.

Study sample consisted of total 200 participants, comprised of 100 patients and another 100 healthy controls. The patients were stratified, proportionately into Group 1 (n=33) viral hepatitis, Group 2 (n=30) non ascites cirrhosis, Group 3 (n=37) cirrhosis with ascites.

The independent variables were Serum Bilirubin, Albumin, SGPT, SGOT, INR, Haemoglobin.

The dependant variables assessed, included, eGFR, BUN, BUN/CRT, Serum Creatinine, Serum Sodium and Potassium.

RESULTS AND DISCUSSION
1. Mean age of 100 patients (45.7± 12.7y), differed (Z = 0.27), from mean age of 100 controls (46.27 ±13y), non significantly (p = 0.78).
2. Glomerular filtration rate: Mean GFR of (107.7± 19.7), (96.4± 16.1), (44.1± 14.9) and (108.78 ±18.39) ml/min/1.73mm2 were found in Group 1, 2, 3 and 4 respectively. One way Anova test showed, difference in mean eGFR in four Groups, F (3,196) =127.9, (p=<0.001), highly significant. Renal dysfunction was found in 56% (37) patients of ascites cirrhosis in Group 3, out of total 67 patients of cirrhosis, (cirrhosis patients in both Group 2, 3).

Mean serum creatinine (0.80± 0.12), (0.87±0 .13), ((1.78 ±0.24) and (0.79± 0.15) mg/dl were found in Group 1, 2, 3 and 4 respectively. One way Anova showed that mean values in four Groups, F (3,196) =357.2, differed, significantly (p<0.001).

Mean serum sodium of (137± 3.2), (136.2± 3.3), (128± 3.84) and (139.4± 3.48) meq/L were found in Group 1, 2, 3 and 4 respectively. Anova test showed, difference in mean values of sodium in four Groups, F (3,196)=97, (p<0.001), highly significant.

Pearson’s coefficient of correlations was computed and found to be (r=+0.696, r2=0.48, p<0.001), (r=+0.53, r2=0.28, p <.0001), (r=+0.50, r2 =0.25, p=.001), highly significant, between (GFR, Albumin), (Albumin, Sodium ) and (GFR, Sodium) groups respectively.

CONCLUSION
Concluded that the patients, who suffered from cirrhosis with ascites, had significant renal dysfunction.
Patients with viral hepatitis and non ascites cirrhosis, had normal renal function.

Key Words
Liver disease, Hepatitis, Cirrhosis, Renal dysfunction, Kidney failure, Renal injury, Renal function, Liver function,