

## البحث الرابع

### **Urinary NAG as a Biomarker of AKI in Patients with Hepatorenal Syndrome**

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#### **Abstract:**

Early detection of acute kidney injury in patients with decompensated liver cirrhosis by urinary N-acetyl-b-D glucosaminidase (NAG). Background: Renal failure is a challenging complication of liver cirrhosis primarily related to reduction in systemic vascular resistance due to splanchnic vasodilatation triggered by portal hypertension also in some patients, with cirrhosis, intrinsic renal diseases may be present that are related not to alternations in systemic hemodynamics but rather to etiological factors underlying the liver disease such as glomerulonephritis associated with hepatitis B or hepatitis C infection. Methods: Forty patients with advanced decompensated liver cirrhosis, with different ages and developed acute kidney injury (AKI) due to variable precipitating factors such as tapping of large volume of ascites in 25 patients, spontaneous bacterial peritonitis in 9 patients, haematmesis in 6 patients and ten age and sex matched normal persons were screened urinary NAG level 12 & 48 hours after admission.

Results: The study group included 28 males and 12 females (M:F = 2.33:1) and their ages ranged from 42 to 67 (mean  $\pm$  SD = 59  $\pm$  5.3 years ). In these patients the first urine sample which taken 12 hours after admission for assessment of NAG level ranged from 40 to 200 IU\L (mean  $\pm$  SD = 88.7  $\pm$  39.9) and second urinary NAG sample which taken 48 hours after admission ranged from 41 to 198 IU\L (mean  $\pm$  SD = 100  $\pm$  44.1). Comparison between laboratory data of study group (N= 40) and control group (N=10) revealed significant differences between 2 groups in laboratory data especially regarding mean urinary NAG levels 12 & 48 hours after admission with statistically significant P value = 0.0001. Comparison between Urinary NAG levels 12 hours (mean  $\pm$  SD = 88.7  $\pm$  39.9) and 48 hours (mean  $\pm$  SD = 100  $\pm$  44.1) for patients of study group revealed statistically significant P value = 0.0001. We conclude that Urinary NAG is a reliable biomarker for detection of AKI in patients with chronic liver disease and that it allows early detection of AKI before serum urea and creatinine.

بحث مشترك منشور في

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