International Journal of Medicine and Pharmaceutical Sciences (IJMPS)
ISSN(P): 2250-0049; ISSN(E): 2321-0095
Vol. 6, Issue 1, Feb 2016, 131-138

Original Article

EARLY PREDICTION FOR COMMON COMPLICATIONS OF LIVER CELL FAILURE USING FECAL CALPROTECTIN CONCENTRATION

AMR GAWALY[1], SAID ABDOU[2], MEDHAT GHAZY[3] & D SHERIF EZZAT[4]

[1, 3, 4]*Internal Medicine, Faculty of Medicine, Tanta University, Egypt*

[2]*Clinical Pathology, Faculty of Medicine, Tanta University, Egypt*

ABSTRACT

Introduction: *Liver cell failure complications especially spontaneous bacterial peritonitis (SBP) and hepatic encephalopathy (HE) are still major problem in early detection. Fecal calprotectin (FC) consider one of inflammatory markers of gastrointestinal (GIT) due to neutrophilic escape and migration so FC concentration is sensitive and non-invasive test to determine the active intestinal inflammatory related to SBP and HE.*

Aim of the Work: *The aim of this study is using fecal calprotectin (FC) for early prediction of onset and severity of SBP and HE.*

Subjects and Methods: *in this prospective controlled clinical trial sixty subjects and patients enrolled in our study 15 healthy non cirrhotic subjects, 15 cirrhotic patients without complications, 15 patients suffering from SBP and 15 with HE. Stool samples were collected for measuring FC by ELISA excluding patients with GIT inflammatory diseases and GIT bleeding.*

Results: *According to Child-Pugh and MELD scores for liver cell failure FC was elevated according to the severity of disease. FC in cirrhotic patients was (75.7± 36.8 mg/kg), SBP patients (195.3±88.3 mg/kg) and HE patients (349.7±106.4 mg/kg). Highly significant positive correlation founded between plasma venous ammonia and FC (P<0.001). Positive correlation emerging between elevated FC and HE grading as measured by West-Haven criteria as low grade HE is (258.7±41.9 mg/kg) and high grade HE is (429.4± 74.9 mg/kg). FC has sensitivity of 93.3% and specificity 66.7% in prediction of HE with positive predictive value (PPV) and negative predictive value (NPV) of 73.7% and 90.9% respectively at cut off value of > 205 mg/kg, on other hand FC has sensitivity of 73.3% and specificity 86.7% with PPV and NPV of 84.6% and 76.5% respectively at cut off value of >99 mg/kg in prediction of SBP patients.*

Conclusion: *Significant elevation in FC in cirrhotic patients with SBP and HE making it a simple promising non-invasive screening test for early prediction of these complications.*

KEYWORDS: *Fecal Calprotectin, Liver Cell Failure, Spontaneous Bacterial Peritonitis, Hepatic Encephalopathy*

Received: Jan 26, 2016; **Accepted:** Feb 02, 2016; **Published:** Feb 15, 2016; **Paper Id.:** IJMPSFEB201616