****

**CORRELATION BETWEEN HEPATORENAL INDEX (HRI) AND FIBROSIS-4 (FIB-4) SCORE IN THE ASSESSMENT OF NON-ALCOHOLIC LIVER DISEASE (NAFLD), FIBROSIS AND CIRRHOSIS**

**PetarAvramovski1, JulijanaPetrovska2 Maja Avramovska**

1. **Professor, MD PhD, St. Clement of Ohrid University – Bitola, North Macedonia. Clinical hospital – Bitola, Department of ultrasonography, Partizanska bb. 7000 Bitola.** [**avramovski@gmail.com**](mailto:avramovski@gmail.com)**gsm: +38970207187**
2. **Gastroenterologist, Clinical hospital – Bitola, Department of gastroenterohepatology, Partizanska bb. 7000 Bitola, North Macedonia.** [**Julpetrov@yahoo.com**](mailto:Julpetrov@yahoo.com) **gsm: +38970510027**
3. **Gynecologist, MD, PhD, Clinical hospital - Bitola, Department of Gynecology and Obstetrics, Partizanska bb. 7000 Bitola.** [**dr.avramovsk@gmail.com**](mailto:dr.avramovsk@gmail.com)**, gsm: +38977945407**

**Background/purpose**: Non-alcoholic fatty liver disease (NAFLD)can progress to nonalcoholic steatohepatitis (NASH), fibrosis and cirrhosis lesions. The aim of this study was to find out the correlation between hepatorenal index (HRI) and fibrosis-4 (FIB-4) score.

**Methods:**B-mode ultrasound examinations were performed in 325 NAFLD patients aged 54.2±8.5 years. Images were analyzed by echogenicity analyzing software and HRI was acquired. Appropriate standard laboratory test for liver (platelets, ALT andAST) were undertakento calculate FIB-4 score.The patients were divided into 3 group according FIB-4 score: significant fibrosis (≥F2), advanced fibrosis (≥F3) and cirrhosis (F4), as well as NAFLD patients according to HRI.

**Results:** The mean HRI in240 (73.85%) NAFLD patients was 1.375±0.128. Mild NFLD was found in 60 (25%), moderate in 137 (57.08%) and severe in 43 (17.91%) with median HRI (1.178, 1.421, 1.822). Mild NAFLDhad23.59% of the patients (HRI=1.167±0.041), 64.04% moderate (HRI=1.401 ± 0.102), and 12.36% patients severe NAFLD (HRI=1.802±0.098).The mean HRI, FIB-4 score and correlation coefficient r between them in patients with significant fibrosis (36.47%), advanced fibrosis (50.59%) and cirrhosis(12.94%) were: 1.723±0.11, 2.37±0.12, r=0.67 (P=0.021); 1.785±0.14, 3.31±0.16, r=0.56(P=0.076) and 1.621±0.13, 4.12±0.21, r=0.52 (P=0.112).

**Conclusion:** The FIB-4 score correlated significantly with HRI in patients with significant fibrosis, but not in advanced fibrosis and cirrhosis.The HRI is not appropriate for estimating steatosis in livers with advanced fibrosis. Accurate, simple and inexpensive method for advanced fibrosis and cirrhosis is FIB-4 score.

**Key words:** hepatorenal index, FIB-4 score, cirrhosis.