SUMMARY

Liver fibrosis is the result of chronic liver injury. In fibrotic liver there are quantitative and qualitative ECM (extra cellular matrix) changes and, the fibrosis appears to play a direct role in the pathogenesis of hepatocellular dysfunction, portal hypertension and leads to cirrhosis and hepatocellular carcinoma (HCC).

Liver biopsy remains the gold standard method in the diagnosis and staging of liver fibrosis, but it is costly and carries a small risk for complications, in addition to sampling error, inter and intra – observer discrepancies in assessing hepatic fibrosis. Hence, there is a need to develop accurate, reliable and non invasive methods to assess the severity of hepatic fibrosis. Transient elastography (TE, fibroscan) is a novel non-invasive method that has been proposed for assessment of hepatic fibrosis in patients with chronic liver diseases, by measuring liver stiffness.

This work was done to evaluate the accuracy of transient elastography in assessment of hepatic fibrosis in patients with chronic liver disease in comparison to liver biopsy.

This study was carried out on 53 patients with chronic hepatitis C (HCV Ab positive and positive HCV RNA by PCR) attending the Hepatology, Gastroenterology and Infectious disease Department at Benha University Hospitals.

All patients included in this study were subjected to full history taking and thorough clinical examination, full laboratory investigations. Including : complete blood count, liver profile tests, kidney function tests, blood sugar, abdominal ultrasography, percutaneous liver biopsy with histopathological grading and staging by METAVIR scoring system, scoring of API, and APRI and transient elastography (TE, fibroscan) also were done for all patients.

The mean age of studied patients was 38.02±8.7 males represented (66%) and females (34%).

The present study found that:

- There was a statistically significant positive correlation between age and fibrosis stage.
- Progression of fibrosis was associated with progressive reduction in serum albumin, while prothrombin time showed no correlation.
- There was a significant correlation between liver appearance in ultrasound and advanced stage of fibrosis.
- There was a statistically significant increase in the spleen size with progressive fibrosis.
- There was a statistically significant difference between fibrosis stages and fibroscan ($P < 0.001$), APRI ($P< 0.01$) and API ($P< 0.05$).
  - Fibroscan was the best test for diagnosis of significant fibrosis ($F\geq 2$) according to METAVIR score, followed by APRI index.

- Fibroscan was the best test for detection of advanced fibrosis F≥3 according to METAVIR score followed by APRI index and API.
- Fibroscan was the best test for diagnosis of liver cirrhosis (F4) according to METAVIR score followed by APRI and API index.
- Fibroscan was a good test for prediction of absence of fibrosis but of low sensitivity in prediction of intermediate stages of fibrosis.
- Cutoff value of transient elastography for diagnosis of significant fibrosis according to METAVIR score was 12.7 Kpa, advanced fibrosis was 13.8Kpa and 25.1Kpa for diagnosis of cirrhosis.
- Fibroscan was an independent variable in the diagnosis of progressive fibrosis while other studied variables (Age, Hb%, Albumin, AST, APRI, API, Spleen size in U/S) were dependent in the diagnosis of fibrosis by METAVIR scoring system.