CLINICAL BENEFITS OF BIOCHEMICAL MARKERS OF FIBROSIS IN EGYPTIAN CHILDREN WITH CHRONIC LIVER DISEASES

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Background: The need for repetition of liver biopsy, especially in assessing the degree of fibrosis and follow-up of treatment protocols, justifies an intensive search for non-invasive alternatives. We attempted to investigate the clinical usefulness of serum fibrogenesis markers in pediatric chronic liver diseases.

Methods: We measured serum levels of TGF-β1, collagen IV, laminin, MMP-2 and EGF-R, in 50 children with chronic liver disease (HBV, HCV and Bilharziasis) and 30 healthy controls, and determined their relationship to frequently used liver function tests and liver biopsy findings in patients.

Results: TGF-βl, collagen IV, laminin and MMP-2, but not EGFR, were significantly higher in patients than in controls ($P < 0.01$). None of these markers correlated with the histological fibrosis stage, whereas laminin correlated with necroinflammatory activity ($P < 0.01$). TGF-β1, collagen IV, laminin and MMP-2 had the ability to discriminate patients with significant fibrosis, while only collagen IV and laminin were able to discriminate those with cirrhosis. Among these markers, collagen IV had the best predictive accuracy for significant fibrosis (AUROC 0.94; PPV 91.5%) and cirrhosis (AUROC 0.85; PPV 80%).

Conclusions: These markers may be useful in reducing but not replacing the need for liver biopsy in the monitoring of disease progression and treatment effectiveness and might be an inseparable part of assessment of chronic hepatopathies.