PERIPHERAL BLOOD FIBRONECTIN GENE EXPRESSION IN CHRONIC HCV PATIENTS WITH LIVER FIBROSIS

Thesis
Submitted to Medical Research Institute
Alexandria University
In Partial Fulfillment of the
Requirements for the Degree

of

Master

of

(Immunology and Allergy)

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2013

SUMMARY AND CONCLUSIONS

Hepatitis C virus (HCV) is associated with fibrosis, cirrhosis, hepatocellular carcinoma (HCC) and end-stage liver disease.

Liver fibrosis is a reaction to chronic liver injury and it is characterized by an excessive accumulation of extracellular matrix proteins including collagen. It is a common process during the majority of chronic liver diseases.

In normal liver, Fibronectin plays crucial roles in various cellular functions, including cell adhesion, migration, proliferation, and differentiation. Increased expression of the EIIIA+ and EIIIB+ isoforms of FN are associated with areas of physiological or pathological tissue remodeling, including wound healing and tissue repair.

Aim of the current study was to evaluate the gene expression of the cellular fibronectin in chronically infected HCV patients and to evaluate its level of expression to the degree of severity of liver fibrosis as detected by ultrasound examination and liver biopsy.

The present study was conducted on twenty patients with chronic (HCV) with detectable HCV RNA group, ten patients with established chronic HCV liver cirrhosis and reference group of 10 apparently normal subjects age and sex-matched individuals as a control group. Fibronectin mRNA in PBMCs was detected using conventional PCR. Bands were semi-quantified by the soft ware program for quantification of gel band (Gel Quant Net; Web Site: http://biochemlabsolutions.com/GelQuant NET.html), all patients with HCV whether cirrhotic or not.

Results revealed that the mean of cellular fibronectin mRNA concentrations in chronic (HCV) liver biopsy group patients (20.40 ± 4.12 ng/μL) was significantly (0.019) higher when compared to corresponding level in the established liver cirrhosis group (18.35 ± 2.53 ng/μL). However healthy control individuals never express cellular fibronectin mRNA.

According to our results, There was significant correlation between the METAVIR score and cellular fibronectin mRNA (P, 0.019). The area under the ROC curve of fibronectin for discriminating patients with chronic (HCV) (F1–F3) from those with established liver cirrhosis (F4) were 0.768 (P, 0.019). The sensitivity, specificity, positive predictive value, Negative predictive value and accuracy of fibronectin for discriminating patients with chronic (HCV) (F1–F3) from those with established liver cirrhosis (F4) were 80%, 80%, 66.67%, 88.89%, and 80%, respectively.

In conclusion, cellular fibronectin mRNA showed satisfactory reproducibility and may be suitable for routine use to differentiate HCV infected patients with chronic (HCV) (F1–F3), established liver cirrhosis (F4) and from patients with no fibrosis (F0).