Assessment of the serum CD14 and TIMP-1 levels as noninvasive markers of liver fibrosis in chronic hepatitis C patients

THESIS SUBMITTED BY

ASMAA ABD-ELFATTAH DEGHEDY

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Faculty of Science – Ain Shams University

Under Supervision of

Dr. Eman M. Abd El-Azeem
Professor of biochemistry
Faculty of Science,
Ain Shams University
Biochemistry Department

Dr. Magda Kamal El-Din Ezz
Professor of biochemistry
Faculty of Science,
Ain Shams University
Biochemistry Department

Dr. Amin M. Abdel Baki
Consultant Gastroenterology, Hepatology and Infectious Diseases
National hepatology and tropical medicine research institute

Ain Shams University
Faculty of Science
Biochemistry Department
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Board of scientific supervision

Dr. Eman M. Abd El-Azeem
Professor of biochemistry
Faculty of Science, Ain Shams University
Biochemistry Department

Dr. Magda Kamal El-Din Ezz
Professor of biochemistry
Faculty of Science, Ain Shams University
Biochemistry Department

Dr. Amin M. Abdel Baki
Consultant Gastroenterology, Hepatology and Infectious Diseases
National hepatology and tropical medicine research institute

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Declaration

This thesis has not been submitted for a degree at this or any other university.

Asmaa Abd El Fattah Deghedy

Ain Shams University
Faculty of Science
Biochemistry Department

Biography

Name: **Asmaa Abd El Fattah Deghedy.**

Date of Graduation: **May 2005, Faculty of Science,**
Biochemistry/Microbiology Department,
Ain Shams University.

Degree awarded **: M.Sc. in Biochemistry, 2012**

Occupation **: Laboratory specialist at National hepatology and tropical medicine research institute.**

Dedication

This work is dedicated to my lovely Mum and Dad.

Thank you for your love, ecouragement and support, and I want to tell you that your friendship and caring have been the driving force in my life during these years. I really wish I could give my kids some of the love and the care you gived to me, love u both more than anyone can imagin and may God bless you for me.

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ABSTRACT

Backround: HCV infection is closely associated with liver fibrosis, a major risk factor related to liver cirrhosis and hepatocellular carcinoma.

Aim: To analyze the association of serum s-CD14, TIMP-1 and TGF-β1 level with the stages of fibrosis in hepatic tissue of HCV infected patients as an alternative non-invasive markers.

Subjects: Eighty five volunteers, divided as fifteen healthy subjects as a control group and seventy HCV patients with liver fibrosis classified into four subgroups according to the degree of fibrosis: group 1 (liver fibrosis F4), group 2 (liver fibrosis F3), group 3 (liver fibrosis F2) and group 4 (liver fibrosis F1).

Methods: Direct biomarkers, serum s-CD14, TGF-β1and TIMP-1 levels, and AFP level were determined using ELISA technique. Serum ALT, AST, albumin, total bilirubin, prothrombin INR, complete blood count were detected. Indirect biomarkers, ALT/AST Ratio (AAR) and Fib4 were also calculated.

Results: Serum sCD14, TGF-β1 and TIMP-1 levels showed a highly significant increase, also serum level of AFP increased significantly in all patients compared to normal control group. This increasment was parallel to the degree of fibrosis. The diagnostic accuracy of all direct blood markers were significantly increased by increasing the stages of fibrosis, while the accuracy of indirect markers (AAR and Fib 4) increased in the early stage of fibrosis.

Conclusion: The results from this study have shown that, sCD14, TIMP-1 and TGF-B1 has high sensitivity and specifity for extensive stages of fibrosis (F3 and F4) and sCD14 was the most sensitive and specific non invasive marker for diagnosis and prognosis of extensive stages of fibrosis (F3 and F4).

KEY WORDS: HCV, Fibrosis, s-CD14,TIMP-1, TGF-β1**.**

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