Laminin and Syndecan-1 levels as Biomarkers in Patients with Hepatitis C

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Presented by
Hassan Salem Elsayed
M.B.,B.ch,Medical Biochemistery
Fayoum university

Supervised by
Prof. Dr. Fatma Ahmed Ayiad
Professor of Medical Biochemistry
Faculty of Medicine
Cairo University

Dr. Amr Ali Zahra
Assistant Professor of Medical Biochemistry
Faculty of Medicine
Fayoum University

Dr. Amira Ahmed Hassouna
Assistant Professor of Medical Biochemistry
Faculty of Medicine
Cairo University

Medical Biochemistery Departement
Faculty of Medicine
Cairo University
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Abstract

The hepatitis C virus (HCV) epidemic in Egypt is unique in the world as there are many publications suggest that over 15% of the people in Egypt are infected ,this is ten times greater than in any other country in the world.**Aim:** To test whether Syndecan-1 and laminin could serve as non-invasive markers for detection of liver fibrosis in patients with chronic hepatitis C and thereby reduce the need for liver biopsy. **Methods:** estimation of Syndecan-1 and laminin in plasma by ELISA were done on 50 subjects (20 normal healthy persons and 30 chronic hepatitis C patients). **Results:** The mean levels of plasma syndecan-1 and laminin were significantly higher in group II (chronic HCV patients) when compared to group I (control subjects).

Keywords: Syndecan-1; laminin; chronic hepatitis C; non-invasive marker; liver biopsy.

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List of Abbreviations

- HCV: Hepatitis C virus.
- SDC1:   Syndecan 1.
- RNA: Ribonucleic acid.
- NANBH: Non-A, Non-B Hepatitis.
- UTR: untranslated regions.
- IRES: Internal Ribosomal Entry Site.
- Th1 lymphocyte: T helper1 lymphocyte
- CD81:   Cluster of Differentiation 81.
- ORF: open reading frame.
- NS: non-structural.
- PCR: polymerase chain reaction.
- LFTs: liver function tests.
- Rh :   Rhesus factor.
- HIV: Human Immunodificiency Virus.
- MPGN: Membranoproliferative glomerulonephritis.
- HBV: Hepatitis B virus.
- TMA :   transcription mediated amplification.
- HCC: Hepatocellular carcinoma .
- PEG-Intron: pegylated interferon.
- AST: Aspartate aminotranseferase.
- ALT: Alanine aminotranseferase.
- IG: Immunoglobulin.
- AChR: acetylcholine receptors.
- EHS :   Engelbreth Holm-Swan.
- LG   :   Laminin globular motifs.

- DG   :   Dystroglycans.
- NMJ :   neuromuscular junction.
- MuSK: muscle- specific kinase.
- PDGF :   platelet-derived growth factor.
- GBM :   glomerular basement membrane.
- CMD :   Congenital muscular dystrophies .
- ECM :   extra cellular matrix.
- HSC :   hepatic stellate cells .
- NASH: nonalcoholic steatohepatitis .
- NAFLD: nonalcoholic fatty liver disease.
- ASH :   alcoholic steatohepatitis.
- HA   :   hyaluronic acid.
- LA   :   Laminin.
- CD138:   Cluster of Differentiation138
- V   :   variable.
- TNF-α :   tumor necrosis factor-α .
- TGF-β2:   Transforming growth factor-beta 2.
- PR39 :   is an inflammatory cell-derived peptide rich in proline- and arginine.
- FGF2 :   fibroblast growth factor-2.
- HGF :   hepatocyte growth factor.
- βFGF :   fibroblast growth factor Beta.
- MMP-9:   matrix metalloproteinase .
- IL-8 :   interleukin-8.
- CCL7:   Chemokine (C-C motif) ligand 7 .
- CCL11:   Chemokine (C-C motif) ligand 11.
- CCL17:   Chemokine (C-C motif) ligand 17.
- PMNs: polymorphonuclear leukocytes .

- EphB4:   Ephrin-B4.
- HPSE-1:   Heparanase .
- HS   :   heparan sulfate.
- APRI :   aspartate aminotransferase to platelet ratio index.
- FT   :   Fibrotest .
- FM   :   FibroMeter.
- EGF   :   epidermal growth factor .
- GGT   :   Gamma glutamyl transeferase.
- ELISA: Enzyme Linked Immuno Sorbent Assay.
- AFP   :   Alpha fetoprotein.
- ROC :   Reactive Operating Curve.
- AUC :   Area Under Curve .
- F   :   Fibrosis.
- GPT   :   Glutamate Pyruvate Transaminase.
- GOT   :   Glutamate Oxaloacetate Transaminase.
- mRNA: messenger ribonucleic acid.
- IFN   :   Interferon.
- EDTA :   Ethylene Diamine Tetraacetic Acid.
- EIA   :   enzyme immunoassay.
- POD   :   peroxidase.
- SPSS :   Self-Propelled Semi-Submersible.

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