

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

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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 Immunodeficiency Virus.
- MPGN: Membranoproliferative glomerulonephritis.
- HBV: Hepatitis B virus.
- TMA : transcription mediated amplification.
- HCC: Hepatocellular carcinoma .
- PEG-Intron: pegylated interferon.
- AST: Aspartate aminotransferase.
- ALT: Alanine aminotransferase.
- 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- β 2: 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.
- β FGF : 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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