# Interleukin 18 as a serum marker in liver cirrhosis

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# اهداء

اهدي هذة الرسالة الي

أمي و أخي ، فبدون

محبتهما و مساندتهما

الصادقة و اللانهائية ما

كانت اكتملت. لهما مني

وافر الامتنان و جزيل

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- **List of abbreviations:**

| | |
|---|---|
| AD | Atopic dermatitis. |
| ALP | Alkaline phosphatase |
| ALT | Alanine transaminase |
| AOSD | Adult onset still's disease. |
| AST | Aspartate aminotransferase |
| BP | Binding protein. |
| αCD40 | Alpha cluster of differentiation number 40. |
| CEDS | Color-encoded duplex sonography. |
| COPD | Chronic obstructive pulmonary disease. |
| CSF | Colony stimulating factor |
| CT | Computed tomography |
| EGF | Epithelia growth factor |
| ELF | Enhanced Liver Fibrosis. |
| EPO | Erythropoietin |
| Fasl | Fas ligand. |
| FGF | Fibroblastic growth factor. |
| FT | FibroTest |
| GAVE | Gastric antral vascular ectasia. |
| G-CSF | Granulocyte-CSF |
| GGT | Gamma glutamyl transferase. |

| | |
|---|---|
| GM-CSF | Granulocyte macrophagecolony stimulating factor. |
| GOT | Serum glutamic oxaloacetic transaminase |
| GPT | Serum glutamic pyruvic transaminase |
| GTP | Guanosine-5'-triphosphate. |
| HCC | Hepatocellular carcinoma |
| HDL | High-density lipoprotein |
| HHV-6 | Human Herpesvirus 6. |
| HRS | Hepatorenal syndrome |
| HVPG | Hepatic venous pressure gradient. |
| IBD | Inflammatory bowel disease. |
| ICE | interleukin-1 beta converting enzyme |
| ICSBP | Interferon consensus sequence-binding protein. |
| IG | Immunoglobulin. |
| IGF1 | Insulin-like growth factor 1 |
| IGIF | interferon gamma inducing factor |
| IL | Interleukin. |
| IL-R | Interleukin receptor. |
| INR | International normalization ratio. |
| IRAK | IL-1R-associated kinase |
| LCAT | Lecithin-cholesterol acyltransferase |
| LDL | low-density lipoprotein |

| | |
|---|---|
| MAPK | Mitogen-activated protein kinases. |
| M-CSF | Monocyte-CSF. |
| MELD | Model for End-Stage Liver Disease. |
| MetS | Metabolic syndrome. |
| MMP | Matrix metalloproteinases. |
| MRI | Magnetic resonance imaging |
| mRNA | Messenger Ribonucleic acid. |
| NK | Natural killer cells. |
| NF-κB | Nuclear factor kappa-light-chain-enhancer of activated B cells |
| NSAIDs | Nonsteroidal anti-inflammatory drugs. |
| PBMCs | Peripheral blood mononuclear cell . |
| PDGF | platelet-derived growth factor |
| PEM | Protein-energy malnutrition. |
| PPH | Porto pulmonary hypertension |
| PRIME study | Prospective Epidemiological Study of Myocardial Infarction. |
| PT | Prothrombin time. |
| rIL-18 | Recombinant protein interleukin 18. |
| SCF | Stem cell factor. |
| SLE | systemic lupus erythematosus |
| TGF | Transforming growth factor |

| | |
|---|---|
| TGFβ1 | transforming growth factor beta 1 |
| Th1 | T helper cell type 1. |
| TIMP | Tissue inhibitors of metalloproteinases. |
| TNFα | tumor necrosis factor-alpha |
| TRAF6 | Tumor necrosis factor receptor-associated factor 6. |
| VEGF | Vascular endothelia cell growth factor |
| VLDL | Very low-density lipoprotein. |
| γ-GT | Gamma-glutamyltransferase |

# Aim of the work

The aim of this work is to study the serum level of interleukin 18 in patients with liver cirrhosis and its role in the diagnosis and prognosis of the disease.

# Introduction

Liver cirrhosis is a progressive, irreversible, chronic disease of the liver, involving the whole organ as a consequence and final stage of various chronic liver diseases of different etiology or the result of long-term exposure to various toxins. (**Zeisberg et al., 2007**).

Liver biopsy is considered the gold standard for assessing fibrosis and inflammation of the liver. Given the limitations of the liver biopsy, there is interest in developing noninvasive markers of hepatic fibrosis as Noninvasive serum markers, noninvasive diagnostic or imaging tests (e.g., ultrasonography, positron emission tomography, transient elastography and magnetic resonance imaging) and genetic studies for assessing fibrosis have been evaluated **(Ray and Thomas, 2009).**

This study here is concerned with a specific cytokine of the interleukins family which is interleukin 18 (IL18). It is a novel cytokine inducing the synthesis of IFN-gamma by Th1 cells and has been identified as interferon gamma inducing factor (IGIF) and monitoring its effect in liver cirrhosis. **(Zeng et al., 2007).**