ENDOTOXIN LEVEL IN CHRONIC LIVER DISEASES

THESIS

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بسم الله الدكمة الدكيم

﴿ قَالُوا سَبِحَانَكُ لَا عَلَـمَ لَنَـا إِلَا مَـا عَلَمَتِنَا إِنْكَ أَنْتَ الْجَلِيمِ الْحَكِيمِ ﴾

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Abbreviations

LPS Lipopolysaccharide

LBP Lipopolysaccharide-binding protein

KD Kilo daltion

GPI Glycosyl phosphatidyl Inositol

CD Cluster defferentiation

TNF Tumor necrosis factor

II. Interleukin

sCD Soluble cluster defferentiation

rsCD Recombinant soluble cluster defferentiation

HDL High density lipoprotein

PGE₂ Prostaglandin E₂

IFN Interferon

EP Endogenous pyrogen

MPS Mononuclear - Phagocytic system

PAF Plasma activating factor

IL-IRa Interleukin-1 receptor antagonist

TNFsRs Tumor necrosis factor soluble receptors

PDGF Platelet derived growth factor

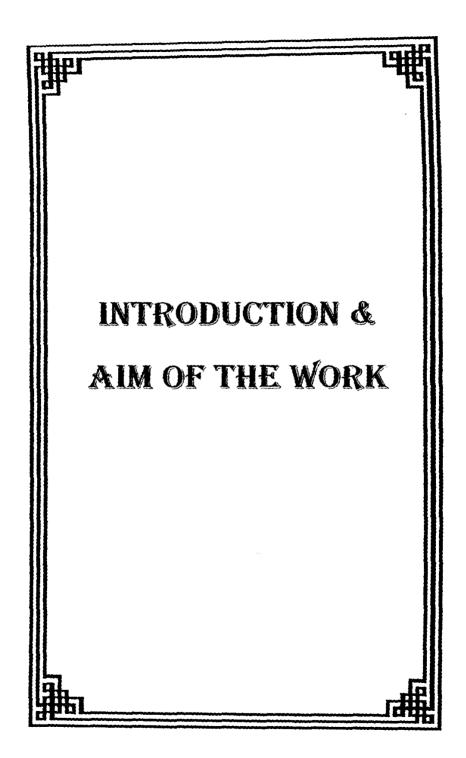
NK Natural killer

TGF-B Transforming growth factor - B

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INTRODUCTION AND AIM OF THE WORK

Bacterial endotoxin derived from the outer cell membrane of gram negative bacteria is recognized to elicit a diverse spectrum of pathophysiologic, pharmacologic and immunologic responses in human beings (Morrison and Ulevitch., 1978).

It has been reported that endotoxin is present in large quantities in the intestine as a result of bacterial death, and that endotoxin is absorbed from the colon and enters the portal circulation. Such portal endotoxemia represents a normal physiologic state (Lumsden et al., 1988-Nolan, 1989).

It has been observed that systemic endotoxemia is much more common in cirrhotic patients than in normal individuals (*Prytz et al.*, 1976). Subsequent studies suggested that endotoxemia without sepsis is a constant finding in cirrhosis (*Bigatello et al.*, 1987-Bode et al., 1987).

Endotoxin has been suggested to play some role in the pathophysiology of liver diseases, particularly such complications as coagulopathy, hypotension, and renal failure (Munford, 1978-Nolan, 1989).

The liver stands as a bacterial filter between the portal and systemic circulations, and kupffer cells form a protective barrier between systemic circulation and portal blood flow by removing endotoxin from the portal blood (Fox et al., 1990).

Kupfler cells not only clear endotoxin from the circulation but are also activated by it. The role of endotoxin

activated kupffer cells in the pathogenesis of hepatic injury is only beginning to be understood (*Toth and Thomas*, 1992).

It has been suggested that the major defect in the handling of endotoxin in patients with chronic liver diseases especially with cirrhosis is due to the presence of portal systemic collaterals which permit the circulating endotoxin to by pass the hepatic RES (Van Deventer et al., 1988).

Decreased RES functional capacity has been suggested as another mechanism of endotoxemia in chronic liver diseases (Ingoldby et al., 1984).

The aim of this work is to measure scrum endotoxin level in peripheral venous blood in Egyptian children suffering from chronic liver diseases and to study factors interacting with it.