



EFFICACY AND SAFETY OF ATORVASTATIN IN SEPTIC PATIENTS

Thesis

**Submitted for Partial Fulfillment of M.D.
In General Intensive Care**

By

Dr. Hanaa Mohamed Abd Allha Ahmed El Gendy
M.B.B.Ch., M.Sc., M.D. of Anesthesia

Under Supervision of

Prof. Dr. Alaa El din Abd Elwahab Koraa
Professor of Anesthesia and Intensive Care
Faculty of Medicine - Ain Shams University

Prof. Dr. Gamal El din Mohammad Ahmed Elewa
Professor of Anesthesia and Intensive Care
Faculty of Medicine - Ain Shams University

Dr. Mohamed Mohamed Nabil El Shafei
Assistant Professor of Anesthesia and Intensive Care
Faculty of Medicine – Ain Shams University

**Faculty of Medicine
Ain Shams University
(2012)**

INTRODUCTION

Sepsis is considered one of the leading causes of mortality in the hospital setting. Although some advances have been made in treating patients with sepsis, the mortality of patients with sepsis remains extremely high **(Stephen et al., 2011)**.

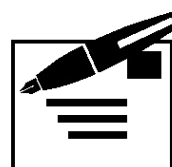
Sepsis is a process consisting of numerous inflammatory cascades and it is initiated by the presence of bacterial toxins and results in systemic inflammation and multiple organ and tissue damage. Cytokines have a prominent role in the defense mechanisms of the host. Their production is mediated by numerous metabolic pathways, which are independent from each other. In order to treat sepsis effectively, intervention should be made at multiple levels, as controlling just one or two pathways does not impede the overall process **(Terblanche et al., 2007)**.

Inhibitors of 3-hydroxy-3-methylglutaryl coenzyme A reductase, namely statins, are a class of drugs used for their ability to lower cholesterol levels. Their primary indication is the prevention of cardiovascular disease. Recently statins have been attributed to have anti-inflammatory and immunomodulatory pleiotropic effects. They inhibit the synthesis of products of mevalonate pathway such as isoprenoids and geranyl-geranylpyrophosphate **(Gao et al., 2008)**.

They also modify the intercellular interactions and the cellular chemotaxis of the immune system. Furthermore, statins reduce the release of cytokines and acute-phase proteins. They demonstrate antioxidant properties and an anti-apoptotic action,

contributing to the stabilization of the atheromatic plaque, modifying cell activity by inhibition of the expression of certain genes and participate in various other mechanisms of the inflammatory response (**Gao et al., 2008**).

Having all these properties, statins have been suggested as an adjunct in the treatment of patients with sepsis. Thus, we sought to examine the efficacy and safety of atorvastatin in the treatment of patients with sepsis.



Introduction



Aim of Work



Review of Literature



Patients and methods



Statistical Methodology



Results



Discussion



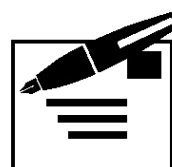
Conclusion



Summary



References



Arabic summary

AIM OF THE WORK

This study was designed to evaluate the efficacy and safety of atorvastatin therapy in septic patients.