

# DIFFERENCES IN ADIPOSE TISSUE LIPOLYSIS IN CRITICALLY ILL SEPTIC PATIENTS WITH AND WITHOUT SHOCK

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## Introduction

Critical illness, and sepsis in particular, drives adipose tissue lipolysis up (with triglycerides [TG] being split to free fatty acids [FFA] and glycerol [GLYC]) to meet increased energy demands. Few studies have addressed lipolysis with tissue microdialysis (MD).

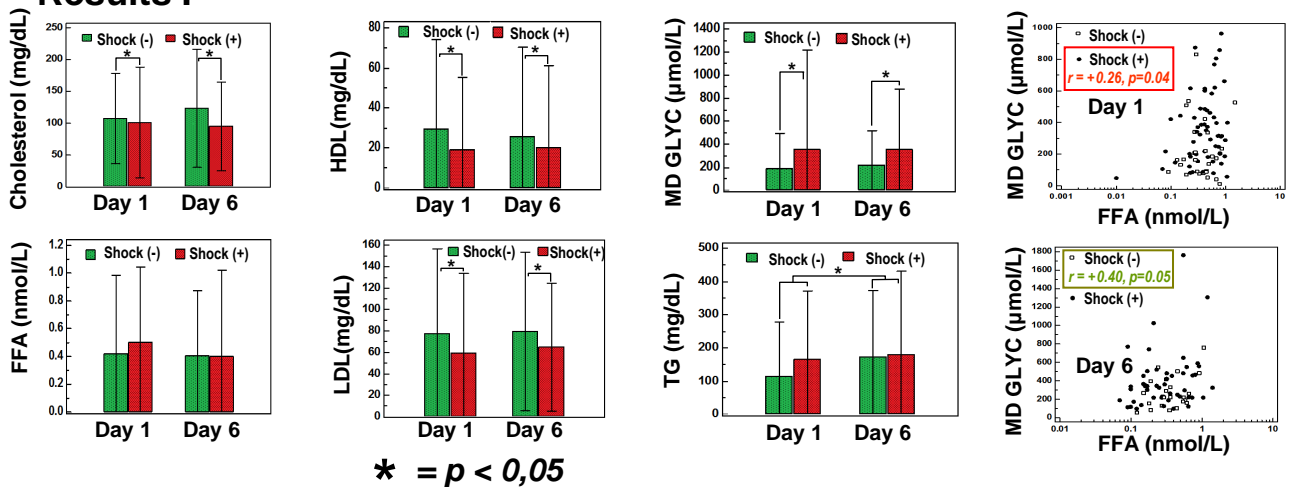
## Aim

To assess indexes of lipolysis in septic patients with and without shock.

## Subjects & methods

The study included 110 men and 73 women (mean age $\pm$ SD: 62 $\pm$ 17 years), 66 with Systemic Inflammatory Response Syndrome (SIRS)/severe sepsis (SSe) and 117 with septic shock (SSho). All the subjects had a tissue MD catheter placed in femoral adipose tissue upon admission to the ICU. Plasma cholesterol, HDL, LDL, FFA, TG and MD GLYC were measured on days 1 & 6 in the ICU. Analysis was done with repeated measures analysis of variance and Pearson's correlation.

## Results I



## Results II

Seventy four patients died. Patients with SSho [*Shock (+)*] had lower LDL and higher MD GLYC levels compared to SIRS/SSe [*Shock (-)*] on days 1 & 6. Significant positive correlations were found between FFA and MD GLYC in patients with SSho on day 1 and in patients with SIRS/SSe on day 6.

## Discussion

Lipolysis was apparently acutely more intense in patients with SSho on day 1 and subsequently subsided whereas it became more pronounced in patients with SIRS/SSe on day 6, verging on chronic critical illness. This dimorphism may provide clues for diversification of nutritional support (carbohydrates vs lipids) in critically ill patients; further studies are warranted.