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±SD: 62+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 corellations 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.