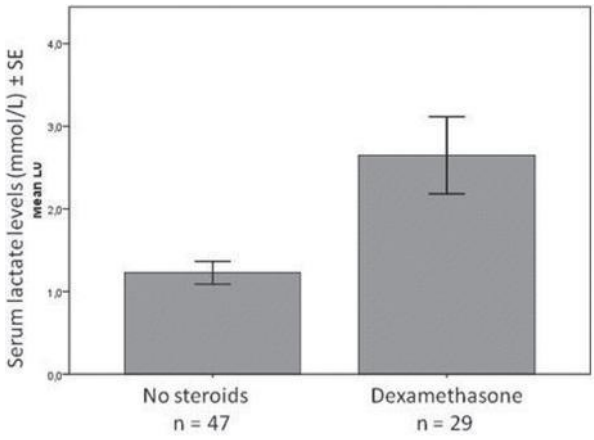

Figure 1 (abstract P585). Serum lactate levels in patients with and without dexamethasone during cardiopulmonary bypass.

perioperatively at the discretion of the anesthetist. Lactate levels were measured within 1 hour postoperatively. The association between dexamethasone treatment, serum lactate levels and possible confounders was evaluated using ANOVA and linear regression.

Results A total of 82 patients 18 years and older underwent cardiopulmonary bypass for cardiac surgery in the above-mentioned period. Three patients undergoing heart or lung transplantation, who thus received methylprednisolone, were excluded; a further two patients who received hydrocortisone for allergic reactions were also excluded. Data were incomplete for one patient, leaving a total of 76 patients for analysis. The mean lactate level was 1.2 mmol/l in the 47 patients who did not receive steroids and 2.6 mmol/l in the 29 patients who received dexamethasone (P <0.0001, Figure 1). When adjusting for potential confounders such as age, glucose level, duration of cardiopulmonary bypass and preoperative NYHA heart failure classification, this difference remained significant (P <0.0001).

Conclusions Administration of dexamethasone during cardiac surgery requiring cardiopulmonary bypass is associated with a significant hyperlactatemia.

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Risk factors for hypertriglyceridemia in the intensive care unit: an exploratory study

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Introduction Despite guidelines recommending a daily fat intake of 0.7 to 1.5 g/kg/day in the ICU, subjects with hypertriglyceridemia >2 mmol/l (HTG) are common. As there are limited data on risk factors for HTG in the ICU, we aimed to determine the factors related with HTG in the ICU.

Methods During 7 months, all consecutive patients staying ≥4 days in an adult ICU from a university hospital were enrolled. Patients eating regular meals or having an initiation or withdrawal of statin during their ICU stay were excluded. Peak values of triglycerides (TG) were collected and the relationships between log-TG and fat intake (g/kg/day) from nutritional (enteral and parenteral) and non-nutritional (propofol's emulsion) sources as well as propofol (mg/kg/day) were assessed using Pearson's correlation coefficients. Correlation was considered small for coefficients between 0.1 and 0.3 and medium for coefficients between 0.4 and 0.6. Nine groups of patients at risk of HTG were further compared with a control group (no risk factors for HTG) using Dunnett's test (significant if adjusted P <0.05).

Results Of the initial 293 patients, 89 were excluded for eating regular meals or having an initiation or withdrawal of statin during their ICU stay. Of the remaining 204 patients, 79 (38.7%) had HTG, although guidelines for lipid intake were followed. Only three patients (1.5%) had a combined fat intake (enteral and parenteral) between 1.51 and 1.71 g/kg/day. Small positive correlations were observed with the intake of nutritional parenteral lipids (0.27), intake of all lipids given (0.20), intake of long-chain triglycerides (LCT) (0.15), and intake of parenteral LCT (0.20). Medium positive correlations were observed with the amount received of lipids administered with continuous propofol (0.40) and the amount of active principle of continuous propofol administered (0.42). In comparison with the control group (n = 81), patients with hepatic dysfunction (n = 6), pancreatitis (n = 14), severe insulin resistance (n = 2), sepsis (n = 32) and dyslipidemia without statin (n = 7) had significantly higher mean values of TG (all P <0.05). Groups with cirrhosis and ascites (n = 3), diabetes mellitus (n = 11), chronic renal failure (n = 6) and patients with statin before and during hospitalization (n = 42) had similar levels of TG as the control group.

Conclusions When guidelines for fat intake in the ICU are followed, modest fat intake does not seem to explain HTG. Our results show that the amount of propofol given (mg/kg/day) and some clinical factors might be correlated with HTG in the ICU.

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Septic patients show significantly lower 1,25-dihydroxy vitamin D levels than trauma patients

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Introduction It is known that 1,25-dihydroxyvitamin D (vitamin D) is involved in expression control of more than 200 genes. Vitamin D affects immunity, endothelial and mucosal functions as well as glucose and calcium metabolism. Moreover, its serum deficiency (<20 ng/ml) is reported to be common in hospitalized patients, especially among patients admitted to the ICU. Our aim was to evaluate vitamin D levels in a selected population of ICU patients and its correlation with admission pathology and outcome.

Methods Among all patients admitted to our general ICU (February to October 2009), 84 patients were studied, 53 admitted for major trauma and 31 patients admitted for severe sepsis/septic shock. Exclusion criteria were: age <18 years, malnutrition state (BMI <18), pregnancy, breastfeeding, chemotherapy and immunotherapy, every pathology affecting bone and calcium metabolism, vitamin D metabolism derangements for therapies, haematological and solid malignancies, HIV. Vitamin D levels were measured by radioimmunoassay and registered at admission as well demographic data, simplified acute physiology score (SAPS), injury severity score (ISS), length of stay (LOS), outcome. Data are expressed as the mean. Statistical analysis: Mann–Whitney (P <0.05). The study was approved by the Internal Review Board, which waived the need for informed consent.

Results Vitamin D levels at admission to the ICU respectively were 14.1 ng/ml in the sepsis group (age 61 years, SAPS 46.9) and 21.88 ng/ml in the trauma group (age 46.7 years, SAPS 36.2, ISS 26.8). To avoid the age-related bias, 23 patients older than 50 years were analysed. Vitamin D levels were found to be 20.9 ng/ml (mean age 66.6, SAPS 43.2, mean ISS 24) (P = 0.0195). No correlations with length of stay, duration of mechanical ventilation or outcome were found.

Conclusions We confirm a vitamin D inadequacy among patients admitted to the ICU, even in young trauma patients (>20 and <30 ng/ml). However, septic patients showed a significantly lower vitamin D level than trauma patients with the same demographic/clinical characteristics (14.1 vs 20.9 ng/ml; P = 0.0195). Correlations between vitamin D levels, LOS and outcome need to be investigated with larger samples.