Risk factors for hypertriglyceridemia in intensive care units (ICU): an exploratory study

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Introduction:

Despite relevant guidelines, hypertriglyceridemia (>2mmol/L) is common among ICU patients. Lack of published data led us to evaluate risks factors for hypertriglyceridemia.

Method:

Patients staying ≥4 days in an adult ICU were enrolled over a seven month period. Pearson's correlations between peak log-triglyceridemia and fat intake (g/kg/d) from enteral, parenteral and propofol emulsion sources as well as propofol (mg/kg/d) were assessed. Eight risks factors were further compared to a control group using Dunnett's test.

Results:

Among 204 patients, 79 (38.7%) had hypertriglyceridemia even when guidelines for lipid intake were followed. Correlations were low between peak log-triglyceridemia and parenteral nutrition (0.27), all lipid sources (0.20), all long-chain triglycerides (LCT) (0.15), or parenteral LCT (0.20). Modest correlations appeared with propofol emulsion (0.40) and propofol regimen (0.42). Patients with hepatic dysfunction, pancreatitis, sepsis, or dyslipidemia without statin had higher mean triglyceridemia ($p<0.05$) than the control group. Patients with cirrhotic ascites, diabetes, chronic renal failure or statin treatment were similar to the control group.

Conclusion:

When guidelines were followed, lipid intake didn't account for hypertriglyceridemia. In contrast, our results suggest that propofol dose regimen (mg/kg/d) and some clinical factors such as hepatic dysfunction, pancreatitis, sepsis, or dyslipidemia may be correlated with hypertriglyceridemia.