oligosaccharides did not influence the immune response on vaccinations against DTaP-Hib in preterm infants.

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PRETERM INFANTS DO NOT UPREGULATE GSH SYNTHESIS DURING SEPSIS

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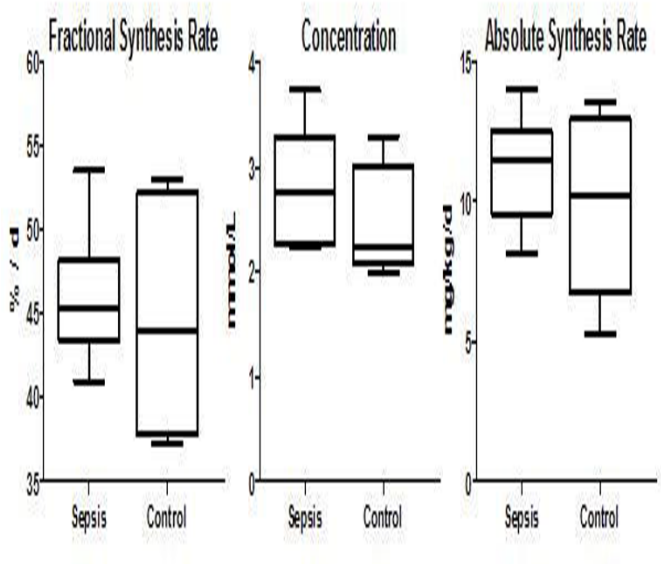
Background and aims: Preterm infants with sepsis have poorer long term outcome than preterm controls. Free radical production is increased during sepsis and the severity of oxidative stress is related to outcome. Preterm infants have reduced antioxidant defenses in the direct postnatal phase. We hypothesized that preterm infants are unable to up regulate the synthesis rate of the major intracellular antioxidant, glutathione (GSH), during sepsis, which could provide a mechanism through which sepsis might have a detrimental effect. The aim of this study was to quantify GSH synthesis rates in erythrocytes of preterm infants with sepsis and control subjects.

Methods: Preterm infants (birth weight < 1500 g) who were diagnosed with nosocomial sepsis (according to CDC criteria) and matched controls were included. [U-^{13}C]glycine, a precursor for GSH synthesis, was administered within 24 hours after onset of symptoms to determine fractional synthesis rate (FSR). Glycine enrichment in GSH was determined using liquid chromatography coupled to isotope ratio mass spectrometry (LC-IRMS). Absolute synthesis rate was calculated from the FSR and GSH concentration. In plasma, oxidative stress markers were determined.

Results: Gestational age ($27^{1}/_{7}\pm2^{1}/_{7}$ weeks), birth weight (872±220 g), age at study (9±5 days) and weight at study (909±246 g) were not significantly different between groups (n=7 each). GSH synthesis rates and concentration were not statistically different (figure).



[GSH kinetics (presented as median and min-max)]

Conclusion: Preterm infants did not upregulate the GSH synthesis in response to sepsis, but GSH concentrations were not lowered by sepsis either.

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A-LACTALBUMIN AND CASEIN-GLYCOMACROPEPTIDE HAVE NO EFFECT ON IRON ABSORPTION FROM LOW-IRON FORMULA IN HEALTHY TERM INFANTS

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Background and aims: Iron absorption from infant formula is low. α-Lactalbumin and casein-glycomacropeptide are thought to enhance mineral absorption. We evaluated the effects of α-lactalbumin and casein-glycomacropeptide on iron absorption from low-iron infant formula in healthy term non-iron-deficient infants.

Methods: In a double-blind randomized controlled trial, 32 infants were assigned to receive one of three low-iron (4mg iron/L) formulas from 6 weeks to