Extrauterine growth restriction in preterm infants: importance of optimizing nutrition in neonatal intensive care units.

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Abstract
Extrauterine growth restriction in preterm infants secondary to suboptimal nutrition is a major problem in neonatal intensive care units. Evidence is emerging that early growth deficits have long-term adverse effects, including short stature and poor neurodevelopmental outcomes. The parenteral route of feeding is essential to maintain nutritional integrity before successful transition to the enteral route of feeding is achieved. Nevertheless, early initiation of enteral feeding in sub-nutritional trophic quantity is vital for promoting gut motility and bile secretion, inducing lactase activity, and reducing sepsis and cholestatic jaundice. Results emerging from over sixty randomized clinical trials are available for providing a template on which feeding protocols can be based. Preterm breast milk expressed from the infant’s own mother is the milk of choice. Supplementation with a human milk fortifier is necessary to optimize nutritional intake. Preterm formulas are an appropriate substitute for preterm human milk when the latter is unavailable. There are over ten systematic reviews of randomized controlled trials published by the Cochrane Library that addressed feeding strategies, but most do not address long-term outcome measures of clinical importance. There is an urgent need for large-scale, long-term randomized controlled trials to help evaluate metabolic, growth, and neurodevelopmental responses of preterm infants to earlier and more aggressive nutritional management.