

“Parenteral nutrition (PN) in term newborns and older infants is often required for nutritional support for temporary or permanent intestinal failure from any reason” Hartman and Shamir (2015).

Reference:

Hartman, C. and Shamir, R. (2015) Intravenous lipid emulsions in term infants: impact on laboratory and clinical outcomes and long-term consequences. World Review of Nutrition and Dietetics. 112, p.81-9.

Abstract:

Parenteral nutrition (PN) in term newborns and older infants is often required for nutritional support for temporary or permanent intestinal failure from any reason. Lipid emulsions (LEs) are an essential source of high-density energy, essential fatty acids, and fat-soluble vitamins. Depending on the fatty acid type, LEs may also have significant immunomodulatory effects. All LEs, starting with soybean oil-based LE and subsequently with medium-chain triglycerides-, olive oil- and fish oil-based LEs, have been investigated in newborns and infants. Laboratory data (mainly liver enzymes, plasma lipid profiles and some metabolic markers) have been investigated for some LEs. The outcome of intestinal failure-associated liver disease after switching to new fish oil-based LEs has been sporadically reported. Long-term outcome data have only looked at the relationship between PN and mortality/morbidity, especially liver disease, and a few studies have looked at growth. There are no controlled studies in this age group that investigated the relationship between different types of LEs and long-term outcomes. In spite of their contribution to understanding the use and indications of various LEs as well as their advantages and adverse effects, most studies in newborns and infants have been observational or retrospective, and the investigated population has been heterogeneous, either in terms of the degree of maturation, age or diagnoses. High-quality studies, preferably randomized and controlled, in this particular population are needed, especially with the widespread use of PN and the emergence of new LEs.

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