

Expanding awareness of new PN products: Home nutrition support takes the lead with an alternative lipid emulsion product

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Background

Until recently in the United States, options for intravenous lipid emulsions (ILE) in PN have been minimal. Since 1975, soybean oil has been the consistent intravenous oil source available. In 2016 a four-oil emulsion (soy oil/medium chain triglyceride/olive oil/fish oil) was finally approved by the FDA. Prior to that, in 2013 an olive/soybean oil emulsion was approved for use, but not launched until 2019 despite its longstanding use outside the US.

The olive/soybean oil emulsion is currently indicated for adult PN formulations. With a blend of 80% olive oil and 20% soybean oil, it is a source of w-9 oleic acid, high in monounsaturated fatty acid, containing 35.8mg/mL linoleic acid and 4.7mg/mL alpha linolenic acid. Literature reports it is immune neutral, less susceptible to lipid peroxidation, and a safe and well tolerated lipid option for the adult PN patient (Image 1).

Purpose

The purpose of this abstract was to assess prescriber awareness and receptiveness for the option to utilize the recently approved olive/soybean oil product for adult HPN patients.

Methods

A national HPN provider reviewed published product literature in conjunction with the 2020 ASPEN Lipid Injectable Emulsion Safety Recommendations, which led to the approval and addition of the olive/soybean oil as a lipid formulary option.

A total of 576 adult HPN formulations were reviewed after a 90-day pilot where consultative verbal and written education along with product information for the olive/soybean oil emulsion was provided to prescribers. Product composition of the newer lipid blend, considered immune neutral due to the content of w-9 oleic acid was compared to the 100% soybean oil emulsion containing a high ratio of w-6 to w-3 fatty acids known to be more proinflammatory, an important factor for the long term HPN patient.

Prescriber receptiveness and response to changing lipid orders was reviewed upon completion of the pilot.

Results

Of the 576 PN orders reviewed, ILE utilization after 90 days was: 285 olive/soybean oil emulsion (49%), 251 four-oil emulsion (44%) and 40 soybean oil emulsion (7%).

Data review indicated that 1% of the olive/soybean oil emulsion orders originated directly from the prescriber, while 99% of the 285 olive/soybean new orders occurred only after the HPN team provided education on the product and offered the option (Table 1).

Discussion

The minimal number of orders for the olive/soybean oil emulsion originating from the prescriber (1%) suggests that product awareness and familiarity was minimal until information and an alternative option was presented by the HPN team.

Prescribers rely on HPN clinicians for updates and availability of PN products, as evidenced by 99% of the olive/soybean oil emulsion orders received solely after product information and options were offered to prescribers.

Home infusion clinicians are often aware of new PN products and availability sooner than prescribers and clinicians in other settings and typically have greater access and flexibility to add these products to formulary.

Conclusion

It is essential for home infusion clinicians to maintain current knowledge of available PN products, since education and promoting awareness to prescribers often defaults to the infusion clinician. In addition, prescribers rely on infusion clinicians for providing product information and consultation regarding PN formulations.

In the current climate of rising costs of PN ingredients and drug shortages, the olive/soybean oil product was found to be a cost-effective product to add to formulary and a clinically appropriate option for many adult HPN patients.

Image 1. Olive/Soybean oil injectable lipid emulsion characteristics

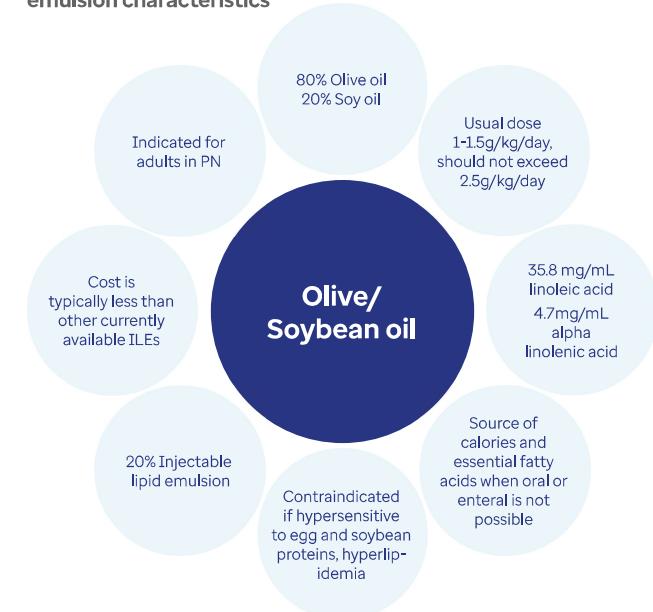


Table 1. Breakdown of ILE orders

