

Parenteral nutrition (PN) overfeeding is a potential risk factor in the development of infections and other complications including hyperglycaemia, refeeding syndrome and liver dysfunction. This study was conducted to evaluate the impact of a quality improvement initiative to reduce PN overfeeding” Franck (2019).

Abstract:

OBJECTIVE: Parenteral nutrition (PN) overfeeding is a potential risk factor in the development of infections and other complications including hyperglycaemia, refeeding syndrome and liver dysfunction. This study was conducted to evaluate the impact of a quality improvement initiative to reduce PN overfeeding.

DESIGN: Retrospective cohort study of a quality improvement initiative.

SETTING: A health system comprised of two US Department of Veterans Affairs medical centres.

PATIENTS: Patients receiving PN.

INTERVENTIONS: Methods to reduce overfeeding included the use of standardised PN products with lower dextrose to amino acid ratios, reduced use of intravenous lipid emulsion (ILE), and use of adjusted body weights or guideline-recommended predictive equations for energy requirements.

MAIN OUTCOME MEASURES: The primary outcome measures were the doses of kilocalories, amino acids and ILE in each cohort. The proportions of patients developing complications before and after the intervention were evaluated.

RESULTS: The mean maximum total daily kilocalorie dose was 30.2 kcal/kg/day in the preintervention group (n=86) vs 23.4 kcal/kg/day in the postintervention group (n=62) (p<0.001). More patients in the postintervention group received reduced ILE during the first week of PN therapy compared with the preintervention group (p<0.001). The mean maximum total daily amino acid dose in each group was not significantly different.

Significantly fewer cases of central line-associated bloodstream infections, hyperglycaemia and liver dysfunction were observed in the postintervention group. CONCLUSIONS: A quality improvement initiative to reduce PN overfeeding was effective in reducing kilocalorie and ILE doses while maintaining similar amino acid doses. Observed complications were reduced following the intervention.

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Reference:

Franck, A.J. (2019) Quality improvement initiative to reduce adverse effects associated with parenteral nutrition overfeeding. *Frontline Gastroenterology*. 10(1), p.67-71.

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