IDPN:

Post Acute Care Nutrition Intervention in Hemodialysis Patients

A. Hellebrand, J. Marshall, D. Leatherman, A. Duggan

Pentec Health, Inc., Boothwyn, PA, USA

INTRODUCTION:

Over the past decade, there has been an exponential increase in the number of skilled nursing facility (SNF) post-acute care end-stage kidney disease (ESKD) patients receiving more frequent home hemodialysis. As a result, defining nutritional interventions for these complex patients is crucial. Poor appetite, inadequate intake, and the catabolic stress and inflammation associated with acute hospitalization may contribute to protein-energy wasting (PEW). Intradialytic parenteral nutrition (IDPN), an intravenous formula of amino acids, dextrose, and optional lipids, can be tailored to support more frequent dialysis (MFD) and treat PEW. IDPN has been shown to improve muscle protein synthesis[1], serum albumin[2,3-5] , prealbumin[3] levels, nitrogen balance[1,2,] and weight.[4]

AIM:

To review the utilization of IDPN in the post-acute care ESKD population residing in select SNFs.

METHODS:

A retrospective review was conducted of post-acute care ESKD patients receiving IDPN in SNFs from 2020 to 2024. IDPN was initiated based on the following criteria: three-month average albumin < 3.5 g/dL, BMI <18, or weight loss of 5% over three months. IDPN was infused during each dialysis treatment according to the MFD schedule. Patient demographics, IDPN duration, composition and tolerance data were collected.

RESULTS:

A total of 172 patients, with mean age 69.5 years, received IDPN during the study period across 62 SNF locations. Patients received IDPN three to five times per week (mean 3.9 sessions). IDPN solutions provided an average of 56 grams of protein per treatment, with an average infusion volume of 357 ml. The mean length of therapy was 25.8 weeks (median 17 weeks), distributed as follows: 1st quartile – 7.75 weeks, 2nd quartile – 17 weeks, 3rd quartile – 38.25 weeks, and 4th quartile – up to 134 weeks. IDPN was well tolerated with only 5% of patients discontinuing therapy due to nausea.

CONCLUSIONS:

In this post-acute care SNF study population, IDPN was well tolerated as a nutrition intervention. MFD allowed for lower volume IDPN administration while providing adequate protein and minimizing fluid-related side effects. ESKD patients discharged to SNFs represent a distinct and complex subset of the population, necessitating tailored interventions. Initiating IDPN therapy immediately upon SNF admission for patients with PEW may be warranted. Future standards should recognize and address the unique and immediate nutritional needs of this population.

REFERENCES:

1. Pupim LB et al. J Clin Invest. 2002;110:483-492.
2. Pupim LB et al. J Am Soc Nephrol. 2004;15(7):1920-1926.
3. Marsen TA et al. Clin Nutr. 2017;36:107-117.
4. Demirci BG et al. Hemodial Int. 2021;1-9.
5. Kittiskulnam P et al. Sci Rep. 2022;12(1):4529.

Poster presented at ADC 2025