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Lamino Nephro 7%

Amino Acid (7% w/v) Infusion 250 ml & 500 ml

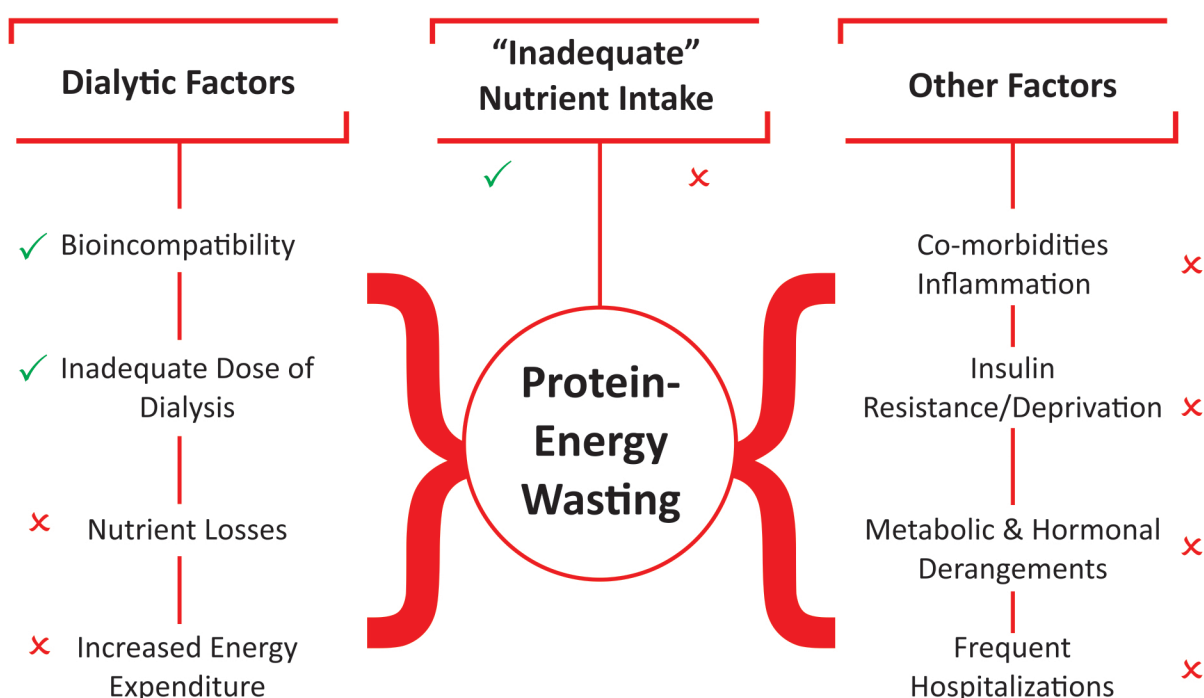
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Background

Adequate nutrition is very important for dialysis patients for a better overall outcome. Protein energy malnutrition is highly prevalent (25-50%) among dialysis patients and is associated with increased morbidity and mortality. Causes of malnutrition in dialysis patients include anorexia (inadequate calorie or protein intake), metabolic acidosis (stimulation of amino acid and protein degradation), and infection/inflammation (stimulation of protein degradation).

Protein-energy wasting (PEW) is common in patients with chronic kidney disease (CKD). PEW is one of the strongest predictors of mortality in patients with CKD. The International Society of Renal Nutrition and Metabolism (ISRNM) expert panel has defined PEW as a, “state of decreased body stores of protein and energy fuels (body protein and fat masses)”. Early recognition and treatment of malnutrition is essential to improve the outcome of patients with advanced CKD and those undergoing maintenance peritoneal dialysis and haemodialysis treatment.



Protein Malnutrition Study

Protein Energy Malnutrition is common amongst dialyzed uremic patients. On an average, the daily loss of protein via the dialysate is in the order of 6-9 g/ day; however there is a large inter-individual variation from 3 to 20g/day. During or after peritonitis this may be increased by 50-100%. Daily total amino acid losses average 2.5g. The daily protein intake recommended is ~0.6 g/kg body weight/day in non-dialyzed patients and at least 1.2 g/kg body weight/day in dialysis patients. The energy requirements are dependent on the level of physical activity. In healthy subjects, an energy intake of 35–40 kcal/kg body weight/day is recommended for those not performing heavy physical exercise. There is no strong evidence that the energy requirements of chronic dialysis patients always differ from those of normal subjects

Brief on ESPEN Guidelines on Parenteral Nutrition: Adult Renal Failure

Goal - same as those in other catabolic conditions in the ICU, such as ensuring the provision of optimal amount of energy, protein and micronutrients, with the aims of prevention of PEW, preservation of lean body mass, maintenance of nutritional status, avoidance of further metabolic derangements, enhancement of wound healing, support of immune function, and reduction in mortality.

Indications - An energy intake 30–35 kcal/kg/day is associated with better nitrogen balance and is recommended in stable CKD patients.

Requirement - In acutely ill patients with CKD on dialysis, the goal of PN is to reduce protein catabolism and nutritional depletion-associated morbidity and mortality. In chronically undernourished CAPD patients IPPN aims to improve quality of life and to reduce PEW-related complications, hospitalization rate and mortality.

Outcomes - PEW is recognized as an independent determinant of morbidity and mortality in HD patients. Retrospective studies suggest that IDPN may reduce hospitalization rate and survival.

Clinical Reference

20 malnourished HD patients received 0.9 g/kg/week of oral EAA (oral group), while the other half of the patients were treated with the same dose of parenteral EAA (parenteral group) for 4 months. However, at the very beginning of the study, 4 patients from the oral group were transferred to the parenteral group because of complaints such as nausea and vomiting. Therefore, this study was completed with 6 patients in the oral group and 14 patients in the parenteral group. Some biochemical parameters, including blood lymphocyte counts and anthropometric measurements as indicators of the nutritional status, were obtained from both of the groups in the pre- and posttreatment periods.

Result:

Statistically significant increases were observed in serum albumin ($p = 0.048$) and creatinine ($p = 0.006$) levels and blood lymphocyte counts ($p = 0.006$) in the parenteral group, while there were statistically significant increases only in serum calcium ($p = 0.028$) levels and blood lymphocyte counts ($p = 0.038$) in the oral group following the treatment when compared to pretreatment values.

Conclusion:

These results show that parenteral EAA therapy is more comfortable and effective than oral EAA therapy in the treatment of malnourished HD patients.

References:

- 1-JASN ;1999 :10
- 2-Clin. Nephrology; 1988:30
- 3-Perit Dial Bull; 1982:2
- 4-Kidney Dis1998; 32[Suppl. 4]: S97–S104
- 5-Kidney Int1986; 30: 741–747
- 6- Nephron 2001; 89:224–227

Lamino Nephro 7%

Amino Acid (7% w/v) Infusion 250 ml & 500 ml

Description:

A clear, colourless injection, containing well balanced mixture of pure crystalline, essential, semi-essential and non-essential amino acids, which are in optimum concentration for protein synthesis. The infusion could be given by either peripheral or central route by suitably adjusting the flow rate.

Indication:

LAMINO NEPHRO 7% is highly appreciated as a parenteral nutrition supplement in the following conditions:

- Acute and chronic renal insufficiency, in haemofiltration, peritoneal and haemodialysis.
- For the compensation of amino acid losses during and after dialysis or haemofiltration.
- Renal failure following polytrauma, extensive surgery and sepsis.
- Supplementing a low protein diet in chronic renal failure patients.

Dosage:

Recommended daily dosage: Up to 0.5 g of amino acids/kg body weight/day in acute and chronic renal insufficient patient not treated by dialysis .Up to 1g of amino acids/kg body weight/day in patient treated by haemodialysis, haemofiltration or peritoneal dialysis.Dosage should be adjusted according to amino acid requirements depending upon age, body weight and condition of patients. Adequate calories should be administered simultaneously either orally or parenterally.

Administration:

The osmolarity of Lamino Nephro 7% is 635mOsmol/L. Therefore can be administered via peripheral line.

Infusion Rate:

LAMINO NEPHRO 7% infusion rate should not exceed 20 drops/minute.

Presentation:

250 ml & 500 ml glass bottle

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