Nutrineal PD4 - (1.1% Amino Acids)
Solution for Peritoneal Dialysis

Prescribing Information

- Baxter PD4 with 1.1% Amino Acids, Solution for Peritoneal Dialysis
- Baxter is a trademark of Baxter International Inc.

A growing body of information indicates that the P-E-N prescription may have advantages beyond lowering glucose levels.1-10

Minimising Glucose Exposure and Load

Contra-Indications

- The safety and efficacy of this solution has not been assessed in children. Caution is recommended in cases of uncorrected acidosis, severe hepatic failure, hyperammonaemia or any condition that requires removal of the catheter. It should not be used in patients with endocarditis or peritonitis.

Posology and Method of Administration

- For intraperitoneal administration via appropriate set and specific indications.
- Percentage amino acid concentration in the bag should be as follows: 5.0% PD, 2.0% PD and 2.0% PD.
- A bag of Nutrineal with 1.1% amino acids provides 22g of amino acids which are equivalent to 0.30g/kg/day for a 70kg adult.

Composition

- L-Tryptophan 0.270g/l
- L-Phenylalanine 0.570g/l
- L-Threonine 0.646g/l
- Serine 0.510g/l
- Proline 0.595g/l
- Glycine 0.295g/l
- Lactate 4.48g/l
- Sodium chloride 5.38g/l
- Concentrated hydrochloric acid q.s. for pH adjustment
- Water for Injections to 1000ml

References:

1-10
A growing body of information indicates that the P-E-N prescription may have advantages beyond lowering glucose levels. This includes:

- Improving nutritional status and reducing metabolic disorders
- Minimising Glucose Exposure and Load
- Preserving peritoneal membrane function
- Preserving residual renal function
- Improving cardiovascular outcomes

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How interested are you in the quantity of glucose provided by conventional PD prescriptions?

- Glucose absorption from conventional glucose-based PD solution is estimated to be between 100-300 g/day in CAPD.
- Glucose-based solutions always contain varying concentrations of GDP.
- Glucose solutions can lead to elevated plasma levels of glucose, lipids, and insulin, thus contributing to obesity and atherogenesis.
- Glucose can adversely affect the peritoneal membrane structure and function.

**P-E-N** minimises glucose exposure and load in CAPD and APD.

Together the non-glucose solutions Extraneal and Nutrineal reduce glucose load by more than 40%.

Adapted from Holmes et al, Perit Dial Int 2000.
The use of combinations of biocompatible and non-glucose-containing dialysis solutions appears to offer an optimized approach to the management of diabetic patients treated with peritoneal dialysis.

P-E-N is associated with reduced hyperglycaemia and smoother glycaemic control in diabetic PD patients.

A significant reduction of local and systemic exposure to GDP is achieved by the P-E-N prescription.

Prospective, controlled study
8 insulin-treated diabetic CAPD patients
Three phases of 72 hours each
Phase 1: three Physioneal exchanges of 1.36% glucose and one of 3.86% glucose
Phase 2: as phase 1; first drop glucose-buffered saline
Phase 3: a minimally glycaemic combination of one amino acid, one icodextrin and two Physioneal 1.36% exchanges
Interstitial fluid glucose was measured every 5 minutes during the 72-hour periods using a Continuous Glucose Monitoring System (CGMS).

To investigate the use of the CGMS to assess overall 24-hour glycaemic control and the effects of both non-glucose-containing and more biocompatible alternative peritoneal dialysis solutions in insulin-treated CAPD patients.

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