St George Hospital, Renal Department – INTERNAL ONLY

Intradialytic Parenteral Nutrition (IDPN)

Objective

To provide nutritional support for the malnourished haemodialysis patient when no other means is available

Limitation of practice

IDPN should only be performed by Registered Nurses who have completed stage one of the Renal Education Program (REM) and are participating in the Advanced Haemodialysis Program.

Factors to alert staff that a patient may require IDPN

- Unintentional weight loss (e.g. ≥10% in the last 6months);
- Low or declining predialysis biochemical measurements for 3 consecutive months (including albumin, creatinine, urea and total cholesterol);
- Low interdialytic fluid weight gains (<1kg);
- Dietary protein and or energy intake (<85% of prescribed);
- Frequent complaints of poor appetite, anorexia, nausea, vomiting and/or diarrhea;
- Frequent hospitalisations for infection and/or access problems

(Patients that meet these factors may need referral to the dietitian)

Equipment

2 infusion pumps or a double pump

2 infusion lines

Dressing pack

1 pack sterile gauze

3 way needle free extension set (Chooks Foot)

Sterile gloves

70% Alcohol solution

Prescribed IDPN solution

Procedure

1. Connect patient onto haemodialysis as per protocol.
2. Wash hands.
3. Prepare equipment. Open dressing pack and place infusion lines, extension set, and gauze onto sterile field. Pour 70% alcohol into tray.
4. Remove ends of IDPN solution and hang solution.
5. Scrub hands, don gloves and face shield.
6. Connect the infusion lines onto 2 of the infusion extension set lines.
7. Using sterile gauze soaked in 70% alcohol swab the IDPN flask and with a non touch technique spike the IDPN flasks and prime the infusion lines and extension set. (For ease of insertion a second person may need to hold the IDPN flask)
8. Using sterile gauze soaked in 70% alcohol, swab the infusion line on the venous bubble trap and remove cap and connect 3 way extension set using a non touch technique.
9. Insert infusion lines into pump and set rate.
10. Adjust UF volume to include IDPN solution.
11. Commence infusion for length of dialysis.

Monitoring and Precautions

- IDPN requires a medical order on the medication chart indicating volume of solution required as prescribed by nephrologists and consulted by dietician.
- Perform baseline BP, PR, and temp.
- If a dextrose solution is used, monitor Blood Glucose Levels (BGLs) at commencement of infusion, mid dialysis and at completion of dialysis.
- Monitor pre dialysis K, PO4, and Mg each dialysis until stable due to risk of electrolyte imbalances.
- Severe hypophosphataemia (serum PO4 <0.3mmol/L) can cause arrhythmia, CCF, hypotension, confusion, muscular weakness, seizures, thrombocytopenia, respiratory arrest, coma and sudden death. Moderate hypophosphataemia (serum PO4 0.32-0.65mmol/L) can cause impaired diaphragmatic contractility, intermittent ventricular tachycardia and insulin resistance.

- A carbohydrate snack arranged by the dietician should be given to the patient about 30 minutes before the end of dialysis to prevent reactive hypoglycaemia.
- Monitor patient for signs of hyperlipidaemia such as a rash or nausea.

Reference

Burrowes JD,2003. Nutrition Assessment and Management of Elderly Dialysis Patients. *Topics in Clinical Nutrition.* 18(4), pp 280-290.

Moore, E. 2008. Cha;;enges of Nutrition Intervention for Malnourished Dialysis Patients. *Journal of Infusion Nursing.* 31(6), pp 361-366.