

Clovis Community Medical Center Case Study

Introduction:

Age: 65

Gender: Male

Primary Diagnosis: End-Stage Renal Disease on hemodialysis, cellulitis, urinary tract infection, diabetes mellitus

Past Medical History: Hypertension, hyperlipidemia, Chronic Obstructive Pulmonary Disease, stroke/TIA

Food allergies or intolerances

No history of food allergies or intolerances

Pathophysiology

End-Stage Renal Disease (ESRD): kidney disease in which kidney function declines to 10 to 15% of normal. ESRD is equivalent to CKD stage 5 or when a patient requires renal replacement therapy. (Nelms, Sucher et al. 2010)

Etiology:

- ESRD is when the kidneys stop working well enough for you to live without dialysis or a transplant. This kind of kidney failure is permanent. It cannot be fixed. Most causes of ESRD are caused by DM or high BP. Some problems you are born with, some reactions to medicines and some injuries can also cause ESRD. (American Kidney Fund)
- Diabetes (representing 39% of patients), hypertension, glomerulonephritis, hereditary cystic and congenital renal disease, interstitial nephritis and pyelonephritis, neoplasm/tumor. (Nelms, Sucher et al. 2010)

Symptoms:

- Poor maintenance of fluid and electrolyte balance and often results in edema, uremia, hyperphosphatemia, hyperkalemia, metabolic acidosis, azotemia, oliguria, anemia, hypertension, anemia, and bone and mineral disorders. (Nelms, Sucher et al. 2010)
- Loss of appetite, nausea and vomiting, fatigue, weight loss, itchy skin, confusion, edema, low urine output, weakness, bruising, frequent infection, numbness and tingling in the extremities, constipation, diarrhea, muscle cramps, SOB, HBP, weak bones, headaches. (Aurora Health Care)

Nutrition assessment

Prescribed Diet: Renal diet, Hemodialysis

Intake: 100% of breakfast (9/20), 40% average on (9/19)

Intake/output: 1030/50+, 2.2 L (dialysis)

GI: + bowel sounds; x5 bowel movements within 24 hours

Estimated Needs: 1875-2250 kcals (25 – 30 kcals/kg ABW),
≥90 grams protein (1.2 g/kg ABW)

Anthropometric measurements:

Height: 68 inches Weight: 88.8 kg (9/21), 96.7 kg (9/20) 126% IBW
BMI: 29 (Note: Lost 7.9 kg in one day secondary dialysis)

Laboratory Values

Na 132 Potassium 4.8 Glucose 115↑ Phosphorus 6.5↑
Albumin 3.4 FSBG: 93-174

Pertinent medications and interactions/side effects

Ampicillin- Antibiotic; taste changes, glossitis, stomatitis, oral candidiasis, N/V, diarrhea, pseudomembranous
Carvedilol- Antihypertensive; N/V, diarrhea, weight gain. May recommend low sodium low calorie diet.
Tamsulosin- Antihypertensive; Dry mouth, dyspepsia, nausea, abdominal pain, diarrhea, constipation. May recommend low sodium low calorie diet.
Atorvastatin- Antihyperlipidemic; nausea, dyspepsia, abdominal pain, constipation, diarrhea, flatulence, avoid grapefruit/related citrus. Low fat, cholesterol, and calorie diet if needed.
Sertraline- Antidepressant; dry mouth, N/V, dyspepsia, diarrhea, constipation, rare- GI bleeding. Avoid tryptophan.
Gabapentin- Antiepileptic; Drowsiness, dizziness, fatigue, ataxia, edema, dry mouth, dyspepsia, N/V, diarrhea, constipation.
Lisinopril- Antihypertensive; dry mouth, N/V, abdominal pain, constipation, diarrhea.
Lanthanum- Phosphate binder; low PO₄ diet, N/V, abdominal pain, diarrhea, constipation, hypotension.
Vancomycin- Antibiotic; Nausea, bitter taste.
Folic Acid- Antianemic.
Ferrous sulfate- Antianemic; N/V, dyspepsia, bloating, constipation, diarrhea.
Insulin- Blood glucose control/DM
Nephro-Vite- Vitamin B complex/FA/Vitamin C

Nutrition Diagnosis

1. Altered nutrition related lab values related to kidney dysfunction and diabetes as evidenced by elevated BUN, Creatinine, Phosphorus, and FSBG range of 93-174.
2. Inadequate protein energy intake related to variable appetite as evidenced by suboptimal po intake.

Nutrition Intervention

1. Increase po intake to meet energy needs.
2. If appetite does not improve, will send renal nutritional supplements BID.
3. Provide hemodialysis education and handout.

Nutrition Monitoring and Evaluation

1. Recommend change to Diabetic Renal Hemodialysis Diet
2. Monitor renal lab values
3. Patient is at moderate nutritional risk. RD follow-up in 5-7 days prn.

Conclusion

This patient was diagnosed with end stage renal disease and placed on hemodialysis. This patient is diabetic which had to be taken into account when placing him on the appropriate diet. The patient had lost a significant amount of weight when hemodialysis began, losing about eight kilograms, most likely from water loss and five loose stools.

The patients lab values showed his glucose was elevated with a range from 93-174 and his BUN, creatinine and PO4 were elevated due to poor renal clearance. The most significant nutritional concern of mine was controlling his blood glucose which is why I recommended a change to the diabetic renal hemodialysis diet. Overall, the patient's oral intake was improving and his condition was beginning to stabilize. I determined the patient was at moderate nutritional risk due to ESRD and hemodialysis.

References

- American Kidney Fund, [internet] Kidney Disease, [last updated Jan 11, 2008; cited Sep. 21, 2011] from <http://www.kidneyfund.org/kidney-health/kidney-failure/end-stage-renal-disease.html>
- Nelms, M., K. Sucher, et al. (2010). Nutrition Therapy and Pathophysiology, Brooks Cole.