**FULL NAME:**

**DATE:**

**NUTR 703. Spring 2025. Case 5. PPN**

**Instruction:**

Review the case in Section I and complete the following sections.

All assignments should be in Times New Roman and 12-point font; black.

1. **Nutrition Assessment:** Complete the ADIME sheet. Fill in all information highlighted in yellow and include calculation steps at the end.
2. **Disease States:** Write about the following conditions, covering 1) pathophysiology (definition, causes/mechanism of disease, and clinical manifestations), 2) statistics (prevalence, which year the data is based on, gender/age differences if applicable), and 3) Medical Nutrition Therapy (MNT) or key nutritional considerations. Include references and use proper citation in AMA or APA format:
   1. AKI
   2. colostomy
3. **Medications:** Complete the table with all pertinent medications.
4. **Labs:** Complete the table with all pertinent lab values
5. **References**: Ensure all references are formatted consistently in AMA or APA style.

# I. Nutrition Assessment

**INITIAL NUTRITION ASSESSMENT**

Verbal consult from surgery team re: PPN initiation.

**Assessment:** 76 y.o. male with a history of type B aortic dissection s/p TEVAR in 2015 requiring multiple revisions 2016-2017 with residual endoleak admitted for thoracoabdominal aneurysm repair completed 10/2020. Post-op course complicated by bleeding/coagulopathy, shock, AKI, fevers, and failed extubating 10/25 requiring re-intubation 10/26. Has been on antibiotics since his surgery, initially vanc/cefepime à broadened to meropenem for possible tracheobronchitis in the setting of significant secretions (sputum cxs now growing MSSA). Had tracheostomy 10/29. 10/30 morning noted to have feculent drainage from his left abdominal incision. Underwent bedside wound opening and irrigation. Found to have colocutaneous fistula on imaging now s/p Reopening of left lateral abdominal component of wound with washout and resection of descending colon with transverse colostomy and smead-jones closure of wound.

**Nutrition History:**

Pt previously receiving Vital AF 1.2 @ 70 mL/hr via PEG. 🡪 \*calculate how much this provides:

1680 mL total volume, 2016 kcal, 126 g protein, 134 RDIs

70 x 24 = 1680

1680 x (75/1000) =

Per team, "Surgery reconsulted due to pt self removing PEG trach and wound vac. PEG replacement attempted and appeared acceptable at bedside after xray, however further imaging revealed misplacement. Some tube feeds had been initiated. Pt with mild tenderness, no pain at rest. Not peritonitic. NG tube placed to suction, PEG tube removed."

**GI:** x 1 loose BM via colostomy

**Current Diet:** NPO

**Allergies:** No Known Allergies

**Anthropometric Measurements**

Ht: 5’8”/172.7 cm

Wt: 64.2 Kg – via bed scale

IBW: 70 Kg +/- 10%

% IBW: 92 %

BMI: 21.5 kg/m²

*(Round to one decimal point for weight, BMI; whole number for percent)*

**Physical Findings**

Skin: intact per RN flow sheets

Ext: +1 edema @ abdominal, sacral, perineal, and facial area; +1 edema @ b/l upper and lower ext; +1 generalized edema

Pertinent Medications: epoetin alfa, nystatin, ondansetron

**Pertinent Labs:**

|  |  |
| --- | --- |
| GLUCOSE | 77 |
| NA | 134 |
| K | 4.5 |
| CHLOR | 96 |
| CO2 | 22.0 |
| BUN | 54 |
| CA | 9.1 |
| CREAT | 3.27 |
| CA | 9.1 |
| MAGNESIUM | 2.2 |
| PHOSP | 5.9 |

**Estimated Nutrient Needs**

Energy: 1890 - 2100 kcals/day (27-30kcals/70 kg IBW)

Protein: 105 - 140 g/day (1.5-2.0g/ 70kg IBW)

Fluid:  1 mL/Kcal or per med team discretion

*(Round to whole number for kcals, grams, mL)*

**Nutrition Diagnosis:**

*(write at least one PES statement)*

  Inadequate oral intake related to s/p PED removal for bowel rest as evidenced by pt requiring PPN to meet nutrition needs at this time.

Altered nutrition related lab values medical course as evidenced by hyponatremia and hyperphosphatemia.

**Nutrition Intervention:**

Per surgery team, pt to be initiated on PPN and maintained NPO.

            - **Recommend PPN to start tonight @ 6 pm x 72 hours:**

                        D70%               mL (= gm, Kcal)

                        AA15%          400  mL (= 60 g, 240 Kcal)

                        H20/Lytes         1386 mL

                        Total Volume   2000 mL @ rate of 83.3 mL/hr x 24 hours

                        Lipid 20%:        mL x 12 hours         Kcal/g

Total Regimen provides: Kcal + g PRO; Kcal + g PRO per Kg IBW

1L: 375 kcal, 30 g PRO

2L: 750 Kcal, 60 g PRO (PPN base solution)

1. Protein

60 x 4 = 240 kcals

60/0.15 = 400 ml

1. Dextrose

750-240 = 510 kcal

510/3.4 =150

150/0.7=214 ml

1. H2O

2000-400-214 =

\*Communicated to team

Monitor renal lytes and PPN tolerance; will c/w monitoring and adjust, prn. \*\*of note, current regimen does not meet pt estimated nutrition needs; will c/w monitoring tolerance and GI status and adjust regimen, prn.

 Osmolality is limited to <900 mosm/L, thus difficult to provide adequate calories without high fluid volume

**Monitoring and Evaluation:**

**Level of Care**:

# II. Disease States

# III. Medications

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Drug** | **Indication** | **Contraindication** | **Effect of Drug on Nutrient Absorption & Utilization and Effect of Nutrient on Drug Absorption & Utilization** | **Side Effects** |
| Epoetin alfa |  |  |  |  |
| nystatin |  |  |  |  |
| ondansetron |  |  |  |  |

epoetin alfa, nystatin, ondansetron

# IV. Labs

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Pt Labs** | **Patient Value** | **Reference Range** | **Elevated or Depressed or**  **WNL?** | **Reasons for Elevation** | **Reasons or Depression** |
| GLUCOSE | 77 | 70-110 mg/dL | WNL | Diabetes Mellitus, acute stress response, excessive consumptions of carbohydrates, Cushing syndrome, acute pancreatitis, and/or corticosteroid therapy | Insulinoma, hypothyroidism, hypopituitarism, extensive liver disease, and/or insulin overdose |
| NA | 134 | 136-145 mEq/L | Depressed | Diuretics, fluid loss, dehydration, excessive sodium intake, diabetes insipidus, excessive sweating, and/or steroids | Diuretics, Syndrome of inappropriate antidiuretic hormone secretion (SIADH), cirrhosis, renal failure, and/or NSAIDS |
| K | 4.5 | 3.5-5 mEq/L | WNL | Excessive intake, hemolysis, infection, crush injury to tissues, aldosterone-inhibiting diuretics, acidosis, and/or dehydration | Diuretics, inadequate intake, burns, Cushing syndrome, renal tubular acidosis, ascites, trauma, and/or surgery. |
| CHLOR | 96 | 96-106 mEq/L | WNL | Dehydration, metabolic acidosis, and/or respiratory alkalosis from hyperventilation | Overhydration, prolonged vomiting or gastric suction, diarrhea or high output fistula, and/or metabolic alkalosis |
| CO2 | 22.0 | 24-29 mEq/L | Depressed | Respiratory alkalosis, metabolic acidosis, renal failure, and/or ketoacidosis | Metabolic alkalosis, and/or hypoventilation |
| BUN | 54 | 5-20 mg/dL | Elevated | Shock, sepsis, burns, dehydration, GI bleed, hypovolemia, excessive protein ingestion, starvation, and/or renal disease or failure. | Inadequate protein, malnutrition, overhydration, SIADH, liver failure, and/or nephrotic syndrome |
| CA | 9.1 | 9-11 mg/dL | WNL | Hyperparathyroidism, hyperthyroidism, breast/lung/kidney cancer antigen, and/or vitamin A toxicity | Hypoalbuminemia, hypomagnesemia, hyperparathyroidism, hyperphosphatemia, renal failure, and/or steroid use |
| CREAT | 3.27 | 0.6-1.2 mg/dL | Elevated | Acute tubular necrosis, pyelonephritis, and/or reduced renal blood flow | Debilitation, and/or decreased muscle mass from muscular dystrophy or myasthenia gravis |
| MAGNESIUM | 2.2 | 1.3-2.1 mEq/L | Elevated | Renal failure, dehydration, acidosis, hypothyroidism, adrenal insufficiency, prolonged intake of Milk of Mag | Malabsorption, diarrhea, fistula, GI surgery, renal losses, alcoholism, meds (diuretics), refeeding syndrome, acute pancreatitis |
| PHOSP | 5.9 | 3-4.5 mEq/L | Elevated | Vit D excess, acidosis, laxatives, renal impairment | Impaired absorption, vit D deficiency, diarrhea, meds (phos binders, insulin), alcoholism, refeeding syndrome |

# V. References