Clinical Case Study

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**GI bleeding Case study**

**Executive Summary**

Case study about 72 years old female who was admitted to the hospital with the GI bleeding. The patient had anemia from blood loss. She met ASPEN criteria for acute severe malnutrition during a hospital stay. She received total parenteral nutrition during her stay. Conclusion: long term stays for ICU patients from severe diseases like GI bleed required nutritional evaluation. It is very important to evaluate its pre-existent nutrition status. The patient who is severe malnutrition and underweight will benefit from additional parenteral nutrition to help in their recovery. It is part of their treatment until they can tolerate an advanced diet.

**Introduction**

Gastrointestinal (GI) bleeding can occur in any part of the gastrointestinal tract. Some of the known diseases that can cause upper GI bleeding are peptic ulcers, severe liver disease, esophagitis (mayo clinic). The other cause of upper GI bleeding is the esophageal varices in liver cirrhosis patients (MARINESCU., et al., 2016). The diseases that can cause lower GI bleeding are tumors, colon polyps, diverticulosis, diverticulitis, uncreative colitis, and Crohn's disease (mayo clinic).

The leading cause of upper GI bleeding is a gastro-duodenal ulcer patient diagnosed with. H. Pylori. The H pylori have a role in these ulcers, but the chronic use of non-steroidal anti-inflammatory drugs (NSAI) has been identified as one reason for GI bleeding. Limit non-steroidal anti-inflammatory drugs, alcohol, smoking is part of the prevention. (mayo clinic). The second cause of upper GI bleeding is the esophageal varices in liver cirrhosis patients. The third most frequent cause of upper GI bleeding is represented by upper digestive tract Tumor (GÜNDOĞAN, et al., 2020).

Some of the GI bleeding symptoms are vomiting, black stool. The bleeding patient might feel lightheaded, difficult breathing, fainting, chest pain, and abdominal pain. (Mayo clinic). The Diagnosisrequires a physical exam, laboratory test such as complete blood count; unexplained iron deficiency anemia (IDA) manifests in 30–40% of obscure GI bleeding cases. Usually, a confirmation test, including upper and lower endoscopy, is needed. Capsule endoscopy is the first-line examination in cases of obscure GI bleeding, and the third diagnostic test after negative upper and lower endoscopy results in cases of ongoing overt bleeding (MARINESCU., et al., 2016). NSAID-induced enteropathy is the most common etiology of small bowel bleeding in some populations such as Korean patients ( Lim., et al., 2020).

Long-term parenteral nutrition (PN) is administered to patients who are unable to use their gastrointestinal tract to absorb sufficient nutrients and water to maintain their nutritional status. Patients receiving long-term parenteral nutrition are at risk of numerous complications, including thrombosis of the central venous catheter used to provide nourishment. Central venous access is essential to the successful delivery of long-term PN (Bajwa & Kulshrestha, 2015).

These studies are related to my case study because they considered patients who had a long stay in the hospital, especially the ones who stayed in the ICU with GI bleeding. These patients who are underweight and severely malnourished would require total parenteral nutrition. My patient has stayed about six weeks in the hospital; four weeks of them were in the ICU. The study considered the effect of the medical parenteral nutrition supplement as an important part of treatment. One of the studies is trying to find the link between GI bleeding and non-steroidal anti-inflammatory drugs. In my patient's case, there is no clear connection with non-steroidal anti-inflammatory drugs (NSAIDs).

**Discussion of the Nutrition Care Process**

In my case, the patient first presented with GI bleed, so she was put on nothing by mouth (NPO)for her endoscopy procedure. The patient was later started on a clear liquid diet, but she did not tolerate it, so a dietitian consult was obtained. The dietitian evaluates the patient and found her underweight and severely malnourished, so she recommends total parenteral nutrition and her clear liquid. Later the patient was able to advance her clear liquid to a mechanical soft diet. On discharge, she was put on a low fiber diet as per her doctor's recommendation.

**Nutrition Assessment**

A 72-year-old female was admitted to the hospital after reaching the emergency room with Gestational hemorrhage with melena. She also had anemia from blood loss from the GI bleeding. She was diagnosed with Gastrointestinal hemorrhage on 5/5/20. She also had paroxysmal atrial fibrillation and Hypertension at the time of admission. She met ASPEN criteria for acute severe malnutrition during a hospital stay.

The patient had a past medical history, including Chronic obstructive pulmonary disease (COPD), Acute pulmonary embolism. Vitamin D deficiency, hyperlipidemia, depression, lung cancer, Gastroesophageal reflux disease (GERD), essential thrombocythemia. Chronic systolic heart failure and Atrial fibrillation.

Her medication are: Acetominophen, Albuterol, Amiodarone, Atorvastatin, Mirtazapine and Pantroprazole.

Recent labs are: Sodium 137 mg/dl, Potassium 3.1 mg/dl, BUN 6 mg/dl, Creatinine 0.72 mg/dl, Calcium 7.5 mg/dl, Albumin 2.4 mg/dl, Phosphorous 2.9 mg/dl, Magnesium 1.6 mg/dl. Glucose 118 mg/dl and HGB A1c 5.5.

 Her comprehension and alertness are good. Our conversation was good.

The Patient weight is 55.8 kg (123 lb), height: 175.3 cm (5' 9"), and BMI of 16.91. Her BMI indicates that the patient is underweight and severely malnourished.

According to equations of multiplying the body weight by the 30 kcal/ kg, Her estimated energy needs is 1670 kcal. Her total protein estimated needs is 83.69. We used a high estimated calorie and a high estimated protein because she was severely malnourished and had inflammation of the GI tract.

Food Intake was inadequate prior to admission for the last 10-14 days due to abdominal pain. Her weight is not stable; she wight 126 lb three months ago, while her current weight is 115 Ib, which is 7.9% weight loss in 3 months. She lost another 6 kg during her stay of 30 days.

 The patient's food intake was inadequate, so the doctor ordered a dietitian consult who recommended starting parenteral nutrition (TPN). The parenteral nutrition order was 1 L Clinimix E 5/20 plus multivitamins and trace elements. This order will provide the flowing parenteral calories: 880, and parenteral protein: 50 g. this order was along with a clear liquid diet. She was on a clear liquid diet; then, she was switched to a mechanical soft diet. The doctor added a low fiber diet for two weeks after the endoscopy procedure. The dietitian provided education about the low fiber diet during the stay and before discharge.

**ASPEN Malnutrition Assessment:**

Nutrition Focused Physical Exam was completed. Pt met ASPEN criteria for acute severe malnutrition due to decreased food intake. Some physical wasting is present at the time of admission.

cute Illness/Injury Severe
Energy Intake: < or equal to 50% energy intake compared to estimated energy needs > (or equal to) 5 days
Body Fat: Moderate
Muscle Mass: Moderate(severe)
Patient Meets Criteria for Severe Malnutrition

  Nutrition Focused Physical Exam Notes:
Subcutaneous Fat Loss
Orbital Region - Surrounding the Eye: Slightly dark circles
Upper Arm Region - Triceps/Biceps: Some depth pinch but not ample
Muscle Loss
Temple Region - Temporalis Muscle: Slight depression
Clavicle Bone Region - Pectoralis Major, Deltoid, Trapezius Muscles: Protruding, prominent bone
Clavicle and Acromion Bone Region - Deltoid Muscle: Bones prominent
Dorsal Hand - Interosseous Muscle: Slightly depressed
Patellar Region - Quadricep Muscle: Bones prominent, little sign of muscle around the knee
Anterior Thigh Region - Quadricep Muscles: Depression/line on thigh, obviously thin
Posterior Calf Region - Gastrocnemius Muscle: Thin, minimal to no muscle definition

**Nutrition Diagnosis**

PES: Inadequate oral intake related to altered GI function NOP status evidenced by physical finding.

**Nutrition Intervention**

Intervention: parental nutrition administration, encourage meals and snacks, parental nutrition administration, modify supplements. Education

**Monitoring and Evaluation**

Goal tolerance of parental nutrition of goal rate, oral intake to meet 75% estimated nutritional needs by next assessment

Monitors: labs, I/O plan of care, PO intake, supplement tolerance

PES Notes

Pt screened at nutrition risk d/t low BMI. Patients with PMH GIB, COPD, GERD, HTN, Vit D def, Pt NPO during visit d/t colonoscopy, and diet advanced to a clear liquid diet. Pt states she lost 11pounds down for UBW per chart wt. Her weight loss has increased due to insufficient intake during the past seven days, the daughter at the bedside confirms. Pt agreeable to supplement as diet advances.

Initiate Ensure clear BID. Monitor supplement tolerance, PO intake.

Nutrition evaluation Pt PO intake is Inadequate. Recommended to start TPN at this time pt will receive 1 L Clinimix E 5/20 plus MVI and trace elements at 1800 on 8/25

**Discussion**

This is a case of a 72-year-old white female who presented to the emergency room with severe weakness and inability to walk. She was evaluated in the emergency room and was found to have a severe acute blood loss due to GI bleed. She was found to be severely malnourished who is severe hypoalbuminemia with cachexia. She was admitted to the ICU for close monitoring and aggressive therapy. Her hemoglobin was low at 7.1, and she required one unit of blood transfusion. She underwent colonoscopy, an obstructive bowel series work up, and here colonoscopy showed ischemic colitis. Her doctor recommended bowel rest, so she was kept on a clear liquid diet, but because of her severe malnutrition and underweight, a nutritional consult was obtained.

A dietitian saw the patient; weight history was found to be unstable. The patient reported that her usual weight was 126 lbs a few months ago, but when she saw her weight was 116 lbs, this reflects a 7.9% weight loss in three months. NFPE was completed, and it was observed that it reflect moderate muscle wasting and severe fat wasting. The patient meets ASPEN criteria for acute severe malnutrition secondary to decreased intake and physical wasting as presented on admission. The dietitian recommended adding total parenteral nutrition to her clear liquid diet. She explains it to the patient, and the doctor gives the order to start it.

During her stay for 19 days in the ICU patient was followed by the dietitian. The medical nutrition therapy goal was to ensure the patient tolerating parental nutrition well at the appropriate rate. Dietitian was monitoring blood glucose, electrolyte changes, plan of care, and weight changes to ensure patient improvement.

The patient was on a mechanical soft diet and low fiber diet; the low fiber diet is gastrointestinal bleeding. The mechanical soft diet was not necessary because there was no reason for the mechanical soft diet. The patient has no problem swallowing or any other reason to be on a mechanical soft diet. After discussing the patient diet needs with other registered dietitians, switched to only a low fiber diet was better for the patient. A mechanical soft diet was removed to improve her food intake. One of the reasons patients were not eating was not liking the consistency of food. Switching the diet to a low fiber diet only improved the patient's food intake. Another reason her intake was improved is the different supplements. She was encouraging the patient to take supplements between meals to heal faster and get her strength back. She was able to recover faster and go home.
**Conclusion and Reflection**
  Long term stay for ICU patient from severe diseases like GI bleeds required nutritional evaluation. It is very important to evaluate its pre-existent nutrition status. The severely malnourished and underweight patient will benefit from additional parenteral nutrition to help in their recovery. It is part of their treatment until they can tolerate an advanced diet.

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