A.H.

Case Study
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Who is AH?

76 years old

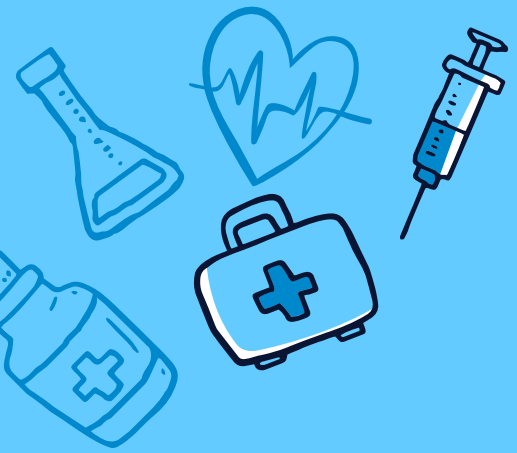
Male

68 inches tall (5’8”)

179 pounds

BMI: 27.32 kg/m^2

Ideal weight: 154 pounds



Chief Complaint

Patient presents to ED with nausea/vomiting and heartburn on 10/28/2023

Medical & Surgical History

- Iron deficiency anemia, due to chronic blood loss
- Hypertension (HTN)
- Hyperlipidemia (HLD)
- Chronic kidney disease (CKD)
- Type II diabetes (T2DM)
- Antiphospholipid Syndrome (Hughes Syndrome) – increases risk of blood clots
- Diagnostic EGD (Esophagogastroduodenoscopy) – 10/28/2023
- Kidney biopsy – 5/2023
- Diagnostic EGD – 4/2023
- Colonoscopy – 4/5/2023
- Vascular stent – 4/2022

AH's Admission Problems

01

Cardiac Arrest

Occuring while admitted, moved to CCU

02

AKI on CKD

Acute injury on a chronic condition of the kidneys

03

GI Hemorrhage

Bleed, in this case causing acute blood loss anemia

04

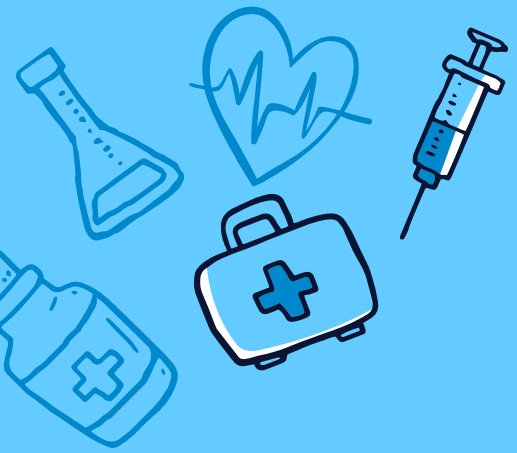
Pneumonia

Due to aspiration

05

Malnutrition

Severe protein-calorie malnutrition



01

Cardiac Arrest

- A sudden, unexpected stop of heart function
- Patient moved to CCU, until stable enough to moved to the non-intensive cardiac unit

02

AKI on CKD

- Chronic kidney disease (CKD): ongoing functional or structural issues with the kidneys
- Acute kidney injury (AKI): an abrupt worsening of kidney function
- MNT goals: enhance nutritional status & reduce the risk of comorbidities; should be tailored to the individual person, based on their labs (ex. BUN, creatinine, electrolytes)

03

GI Hemorrhage

- A bleed in the GI tract caused by a ruptured vessel
- In this patient, causing acute blood loss-related anemia

04

Aspiration Pneumonia

- Pneumonia, an infection in the lungs, caused by breathing liquid or food into the lungs
- Pneumonia patients at greater risk of malnutrition & weight loss
- MNT goals: prevent weight loss, maintain lean body mass, provide EN if PO intake is not enough
- SLP evaluation – necessity for modified diet (IDDSI)

05

Protein-Calorie Malnutrition

- Poor nutritional status: decreased intake, weight loss, fat/muscle wasting, and/or nutrition-related edema
- MNT goals: provide a minimum of 25 kcal/kg + 1.25 grams protein/kg
- Increase needs on individual basis

Nutrition
Need to Know

Nutrition Visits

Initial RD visit 10/30/2023
1st follow up 11/3/2023
2nd follow up 11/13/2023

Triggers

Nausea/vomiting 3+ days PTA and non-healing wounds

AH's 3rd Nutrition Visit - Notes

Patient in good spirits, laughing and smiling with family upon entering room and during third assessment.

Patient reports:

- Good appetite today (first day): patient ate > 75% of breakfast (cream of wheat, peaches, pudding, coffee), and is still hungry
- No nausea, vomiting, diarrhea, constipation this day, had one episode of nausea the day before upon waking, passed once patient sat up, not heartburn
    - Tolerating pureed food well, no trouble swallowing currently and no trouble chewing PTA, would like to advance from pureed diet
    - Not consuming nutrition supplements (Ensure), requests order be canceled
        - Interested in trying Magic Cup and high-protein Jello

Nutrition Risk

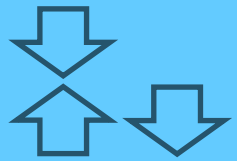
- Patient consuming less than 50% of nutrient needs for greater than 5 days, prior to initial assessment
- Patient diagnosed with acute severe malnutrition at initial assessment, based on decreased intake and edema (+3)
- Patient consuming 50% or less of needs during admission until day of 3rd assessment (2nd follow up), when intake began to improve
- Patient with multiple pressure injuries/wounds
- NFPE findings
- Patient's medical history

Assessment

- Consuming 25-50% of nutrition needs for 3 days PTA
- No special diet PTA, no allergies, intolerances, food-related religious preferences, no oral nutrition supplements PTA
- Patient 68”, currently 179 pounds, usually 170 pounds, BMI 27.32, patient experiencing weight fluctuations during admission, likely due to fluid accumulation (edema)
- See lab data on slide 15 (next slide)
- See NFPE finding on slide 16
- Past medical history: iron deficiency, HTN, HLD, CKD, T2DM, Hughes Syndrome
- Patient lives with spouse and has support from daughter who lives close by (both present during 3rd nutrition visit)

Lab Data

Lab + range	10/30/2023	11/3/2023	11/13/2023
Glucose (< 100)	191	232	171
BUN (8-23)	154	172	75
Creatinine (0.5-1.2)	4.29	4.55	2.84
Sodium (136-145)	139	142	139
Potassium (3.5-5.1)	3.7	3.6	4.2
Calcium (9.0-10.5)	7.3	7.9	7.7
Phosphorus (2.5-4.5)	5.8	5.7	1.9
Magnesium (1.7-2.4)	2.8	2.7	2.1
HA1c (< 6.5)	8.4	8.4	8.4


NFPE

Subcutaneous Fat Loss

- Orbital – mild
- Buccal – moderate
- Triceps - severe

Muscle Loss

- Temple – moderate
- Clavicle – severe
- Shoulder – moderate
- Calf - moderate

Some swelling around the ankles (possibly +1 edema), was +3 at initial visit

Medications during admission

- Amlodipine (Calcium channel blocker - BP)
- Bumetanide (diuretic)
- Carvedilol (BP)
- Epoetin (anemia, CKD)
- Fluticasone (steroid)
- Folic Acid
- Insulin
- Prednisone (steroid)
- PPI

Main Nutrition Diagnosis

P

Malnutrition, acute disease related, undernutrition (severe)

Related to…

E

Impaired GI function, inadequate caloric intake, and swallowing difficulty/dysphagia

As evidenced by…

S

Visual loss of muscle mass and subcutaneous fat loss; energy intake of less than 50% estimated energy needs for 5+ days

Supporting Nutrition Diagnosis

P

Increased nutrient needs (kcal, protein)

Related to…

E

Repletion (wound healing, +PCM)

As evidenced by…

S

Protein-calorie malnutrition, visual loss of subcutaneous fat and muscle

Intervention

- Continue on level 4 IDDSI diet, per MD (SLP to follow)
- Discontinue Ensure
- Send Magic Cup 1x daily
- Send High Protein Jello 1x daily
- PES #1: Meet > 75% of estimated nutrition needs from meals + Magic Cup & Jello
- PES #2: Increased needs, based on ideal body weight:
  - Energy: 28-32 kcal/kg = 1960-2240 kcal
  - Protein: 1.2-1.5 g protein/kg = 84-105 grams
  - Fluid: 1ml/kcal

Monitor & Evaluate

- #1: Indicator: PO Intake; Criteria: consume > 75% of estimated needs
- #2: Indicator: Estimated needs; Criteria: calculated needs @ 28-32 kcal/kg and 1.2-1.5g protein/kg
- Monitor labs (glucose, BUN, creatinine)
- Monitor weights
- Monitor skin
- Patient will be monitored for changes in diet daily and more closely every 3-5 days for follow up

References

1. Nutrition Care Manual. Accessed December 12, 2023. https://www.nutritioncaremanual.org/.
2. *Nutrition Care Process Terminology Reference Manual*. Academy of Nutrition and Dietetics; 2017.
3. Width M and Reinhard T. *The Essential Pocket Guide for Clinical Nutrition*. Jones & Bartlett Learning; 2021
4. Mordarski B. *Nutrition Focused Physical Exam*. Academy of Nutrition and Dietetics; 2022.