**Academic Half Day**

Thursday, March 14, 2024

**Facilitator Guide**

Topic: Nutrition

**Case #1:**

You are seeing a patient for a follow-up visit in the Hoxworth resident clinic. She is a 72-year-old female with a past medical history of T2DM, HTN, and metastatic melanoma currently on immunotherapy and palliative radiation therapy. She comes into the clinic today because of generalized fatigue, poor appetite, and progressive weight loss over the past 2-3 months. She does not eat breakfast most mornings (only drinks coffee), eats a turkey sandwich with chips and veggies with hummus, and dinner in the evenings with her daughter with whom she lives. On further discussion, she admits to eating about 50-60% of her meals due to poor appetite.

* Vitals: Afebrile, BP 115/76, HR 72, RR 14, SpO2 100% on RA
* Height: 5’5”
* Weight trend: 142 lbs (11/7/2022) -> 140 lbs (3/22/2023) -> 129 lbs (10/17/2023) -> 119 lbs or 54 kg (1/2/2024)
* Current BMI: 19.8
* Physical exam: No acute distress. Tired appearing. Temporal muscle wasting noted bilaterally. MMM. RRR. No murmurs. Lungs are CTAB. Normal work of breathing. Abdomen is soft, nontender, nondistended. Mild pedal edema.

**1a) What do you think about this patient’s weight loss? Are there any tools available to help you evaluate a patient for malnutrition? Think about different healthcare settings – outpatient vs inpatients vs ICU.**

**1b) Can you calculate this patient's caloric needs and specific macronutrient goals?**

**1c) What are the 6 criteria used for diagnosing protein-calorie malnutrition in adults?**

*Note: See diagram at end of packet after answering on your own first.*

**1d) Should we consider initiating nutritional support for this patient? Why or why not?**

**Case #2: Enteral Nutrition**

An 83 year-old male with a past medical history of peripheral vascular disease, hyperlipidemia, type 2 diabetes mellitus, and hypertension was found down at his home by a home health aide. On arrival to the ED, he was encephalopathic, dysarthric, and hypoxic, so he was intubated on arrival for airway protection. Further workup reveals that the had a subacute, ischemic stroke, and he is admitted to the NSICU. While caring for this patient during a critical care elective, you calculate his Nutrition Risk in the Critically Ill (NUTRIC) Score is 8.

**2a) Should we consider initiating nutritional support for this patient? Why or why not? Do you want to consult any team(s)?**

**2b) What are contradictions to enteral nutrition?**

**2c) What options are available for an enteral access device? Which do you want to use for this patient?**

|  |  |  |  |
| --- | --- | --- | --- |
| **Enteral access device** | **Length of use: short- or long-term?** | **Pros** | **Cons** |
| Nasogastric tube |  |  |  |
| Orogastric tube |  |  |  |
| Gastrostomy tube |  |  |  |
| Jejunostomy tube  |  |  |  |

Table adapted from Kirby, D.F. and Fawley, R.K. Enternal and Parenteral Nutrition - What is Meant by and What are Examples of Enteral Access? American College of Gastroenterology. Published Sept. 2011. Updated April 2021. Accessed March 2, 2024. (https://gi.org/topics/enteral-and-parenteral-nutrition/)

**2d) Which tube feed are you going to start? What are some of the differences between various tube feed formulations?**

|  |  |
| --- | --- |
| **Tube Feeds** | **Notes and Examples** |
| Standard Formulas |  |
| Specialized Formulas |  |

**2e) What is the starting rate for your tube feed orders? What is your plan for titrating to goal?**

**2f) You are concerned that your patient may have intolerance to the current tube feed rate. How do you assess this?**

**2g) Your patient has improved over the next 2 weeks. He is extubated and able to be moved to med/surg floor level of care. Unfortunately, your patient’s dysphagia is persistent despite these medical improvements and continued work with speech therapy. When do you consider a more long-term feeding tube? Although the time cutoff is somewhat arbitrary, what complications can arise from prolonged placement of NGT/OGT?**

**2h) The patient and family agree with the recommendation for nutritional support but are concerned about the patient going home with a PEG tube. They ask you, “What are the potential complications?”**

**Case #3: Parenteral Nutrition**

You are working as the AOD as a PGY3, and the colorectal surgery team consults you for medical co-management of a patient who recently underwent abdominal surgery for a complete bowel obstruction 5 days ago. The surgical team is planning to return to the OR with the patient next week. You are completing the consult note and relaying your recommendations to the surgery resident. While discussing this patient’s care, the question of whether to initiate TPN comes up given that the patient will be NPO until at least the next surgery. You say, “That’s a great question!”, and remember what we discussed during AHD as an intern!

**3a) When should you initiate parenteral nutrition for patients? What's the difference between total parenteral nutrition (TPN) and peripheral parenteral nutrition (PPN)?**

**3b) What are your access options for parenteral nutrition?**

**3c) After further discussion with the surgical team, you all collectively decide to proceed with the initiation of TPN. Which additional teams will you need to consult now?**

**3d) What are some common complications associated with parenteral feeding?**

**3e) Is this patient at risk for refeeding syndrome? How do you manage/monitor for refeeding syndrome in at-risk patients?**

**References used throughout the guide:**

* Hadefi A, Arvanitakis M. How to Approach Long-term Enteral and Parenteral Nutrition. *Gastroenterology*. 2021;161(6):1780-1786. doi:10.1053/j.gastro.2021.09.030
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* Malone A, Hamilton C. The Academy of Nutrition and Dietetics/the American Society for Parenteral and Enteral Nutrition consensus malnutrition characteristics: application in practice. *Nutr Clin Pract*. 2013;28(6):639-650. doi:10.1177/0884533613508435
* McClave SA, DiBaise JK, Mullin GE, Martindale RG. ACG Clinical Guideline: Nutrition Therapy in the Adult Hospitalized Patient. Am J Gastroenterol. 2016;111(3):315-335. doi:10.1038/ajg.2016.28
* White JV, Guenter P, Jensen G, et al. Consensus statement: Academy of Nutrition and Dietetics and American Society for Parenteral and Enteral Nutrition: characteristics recommended for the identification and documentation of adult malnutrition (undernutrition). *JPEN J Parenter Enteral Nutr*. 2012;36(3):275-283. doi:10.1177/0148607112440285

