

NUT116BL

Name: __yimeng Ma

Winter 2015

Section: _____

Mini Case Study #3

20 ppints

2/27/2015

Present illness: LM is a 75 yo M presenting with L sided weakness, slurred speech, and difficult swallowing. The speech pathologist has completed a swallow evaluation that reveals severe oropharyngeal dysphagia. He must be kept NPO. Patient's spouse is at bedside and reports 'everything being fine' until 2 days ago when patient lost function of his left side and was slurring his speech. She called 911 and brought him to the ED and was admitted right away. She says he has always been a big guy and loves his food and wine. His activity consisted of overseeing their winery and playing 18 holes of golf on the weekend.

Dx: acute CVA

PMH: HTN

Anthropometrics: Height 6', Weight 240#

Labs: Albumin: 3.8 g/dL Na: 134 mEq/dL Cl: 101 mEq/dL

K: 3.6 mEq/dL CO2: 26 mg/dL Cr: 0.8 mg/dL

Glu: 276 mg/dL Total Cholesterol: 245mg/dL

Meds: Toprol, coumadin

Diet: NPO

1. Using IBW, calculate LM's nutritional needs, including calories, protein and fluids. (show calculations) **(6 points)**

Estimated Kcal needs;

Mifflin-St. Jeor: $10 \times \text{weight (kg)} + 6.25 \times \text{height (cm)} - 5 \times \text{age (y)} + 5$

Height: 6' = 72" = 182.88 cm Weight: 240# = 109.09 kg

$(10 \times 80.91 \text{ kg}) + (6.25 \times 182.88 \text{ cm}) - (5 \times 56 \text{ yo}) + 5$

= 1677.1kcal

Activity Factor: 1.0-1.2 No Injury Factor

$1677.1 \times (1.0 - 1.2) = 1677.1 - 2012.52 \text{ kcals}$

Estimated Protein Needs

IBW: 106 lbs for first 5 feet + 6 lbs per inch over 5'

IBW: 106 lbs + (6 lbs x 12 inches) = 178 lbs ÷ 2.2 lb/kg = **80.91 kg IBW**

No tissue damage, CVA. 0.8 – 1.0g/kg/day

$\% \text{IBW} = (240\# / 178\#) \times 100 = 134.8\%$

$\text{BMI} = 109.1 / 91.83 \text{ M}^2 = 32.58$;obese 1

$80.91 \text{ kg} \times (0.8 - 1.0 \text{ g/kg/day}) = 64.73 - 80.91$! **65 – 81 grams per day**

Fluid needs

$$=1\text{ml/kcal}=1677\text{ml}-2013\text{ ml}$$

2. What micronutrient and food sources need to be considered for a patient on Coumadin? **(2 points)**

Coumadin works by decreasing the activity of vitamin K, lengthening the time it takes for a clot to form. Sudden increase in vitamin K intake will decrease the effect of Coumadin. On the other hand, greatly lowering in vitamin K intake could increase the effect of Coumadin. So pt might need limit food considered high in vitamin K. try to keep the vitamin K intake consistent from day to day. Food considered high in vitamin K include swiss chard, turnip greens, kale, collard greens, spinach and Brussels sprouts.

3. Define dysphagia and how it impacts your nutrition intervention. **(2 point)**

Dysphagia is the condition in which an individual experiences difficulty swallowing. Symptoms include: drooling, food retention, choking, coughing, muscle weakness, and motor defects. Dysphagia can be diagnosed by a speech pathologist, RD, occupational therapist, or physician or via tests (barium swallow and endoscopic fiberoptic tests)

Dysphasia has profound impact on nutritional status of pt. Dietary modification such as altering food texture has to be implemented into nutrition intervention in order to help pt to swallow and get enough food. The degree of dietary modification should be based on each patient's swallowing capacity and must be regularly evaluated and adjusted

4. Name and describe the 3 levels of the National Dysphagia Diets. **(3 point)**

Level 1: Pureed – homogenous, blended, pudding-like consistency, very cohesive, and lump-free. Requires very little/no chewing.

Level 2: Mechanically altered – cohesive, moist, semisolid foods, requires some chewing. Meats are ground and served with gravy or sauce. Cooked breakfast cereals and soft pancakes are moistened with syrup.

Level 3: Advanced – soft foods, less moist and more chunky. More chewing is required.

5. The referring physician is recommending the placement of a PEG tube. What are your formula recommendations? List type of formula, volume and rate that best matches your calculated calorie and protein goals. (show calculations) **(4 points)**

Osmolite® 1 Cal, sold by Abbott Nutrition, is a tube feeding formula for patients with caloric requirements of less than 2000 kcal/day

<http://abbottnutrition.com/brands/products/osmolite-1-cal>

Kcal needs based on IBW:

$$(10 \times 80.91 \text{ kg}) + (6.25 \times 182.88 \text{ cm}) - (5 \times 56 \text{ yo}) + 5 \\ = 1677.1 \text{ kcals}$$

Activity Factor: 1.0-1.2 No Injury Factor

$$1677.1 \times (1.0 - 1.2) = \mathbf{1677.1 - 2012.52 \text{ kcals}}$$

Round up to 1700 – 2000 kcals

8 fl oz (237 mL) per serving, 1.06 kcal/mL

$$1700 \text{ kcals} \div 1.06 \text{ kcal/mL} = 1603.77 \text{ mL} \quad 2000 \text{ kcals} \div 1.06 \text{ kcal/mL} = 1886.79 \text{ mL}$$

Daily total volume for kcal: 1600 – 1900 mL Round to nearest bag: **1500 – 2000 mL**

Protein needs based on IBW:

$$80.90 \text{ kg} \times (0.8 - 1.0 \text{ g/kg/d}) = 64.72 - 80.9$$

65 – 81 g protein/day

LM needs 65 – 81 g protein per day in 1500 – 2000 mL formula

10.5 grams protein per 237 mL (serving) = 0.0443 g protein/mL formula

$$1500 \text{ mL} \times 0.0443 \text{ g/mL} = 66.45 \text{ g protein}$$

$$2000 \text{ mL} \times 0.0443 \text{ g/mL} = 88.6 \text{ g protein}$$

1500 -2000 mL of this formula provides **70 – 90 g protein**, respectively.

Hourly rate:

$$1500 \text{ kcals} \div 24 \text{ hours} \div 1.06 \text{ kcal/mL} = 58.96$$

$$2000 \text{ kcals} \div 24 \text{ hours} \div 1.06 \text{ kcal/mL} = 78.62$$

60 mL – 80mL per hour

6. Is this volume of tube feeding adequate to meet his fluid needs? If not, indicate what else is needed and how it would be added to the current tube feeding. (show calculations) **(2 points)**

842 g/mL/cc water per 1000 mL = 84.2% water in Osmolite® 1 Cal.

Multiply % free water by the estimated kcals

$$84.2\% \times 1500 \text{ mL} = 1263 \text{ mL free water} \quad 84.2\% \times 2000 \text{ mL} = 1684 \text{ mL free water}$$

1500 – 2000 mL of this formula provides 1263 – 1684 mL free water towards fluid needs.

Subtract volume from his estimated fluid needs:

$$(1677 \text{ to } 2013 \text{ mL/day (estimated)}) - (1263 \text{ to } 1684 \text{ mL provided in formula})$$

$$= 329 - 414 \text{ mL fluid deficit}$$

$$329 \text{ mL} / 6 \text{ flushes} = 54.83 \text{ mL} / 4 \text{ hour} = 60 \text{ mL} / 4 \text{ hour}$$

$$414 / 6 \text{ flushes} = 69 \text{ mL} / 4 \text{ hour} = 70 \text{ mL} / 4 \text{ hour}$$

60-70 mL/4 hour

his volume of fluid needed (329-414 mL) can be added to the current tube feeding as water. 60 -70 mL of water can be administered through the nasogastric tube, and used as “free water flushes,” which can be administered approximately every 4 hours.

7. Write 1 appropriate PES statement for the patient's nutrition problems. **(1 points)**

Inadequate oral intake (NI.2.1)r/t dysphagia AEB the
Diagnosis of the speech pathologist

.