

CHS – 453

Practicum II in clinical nutrition

1st Exam

Name :

Student number:

Question I:

Salem.S. is an 8 yrs old Saudi male. k/c of ALL , allogenic BMT 3/12 ago. He was diagnosed with ALL @ the age of 6 when he was admitted several times c/o splenomegaly and low-grade fever of unknown etiology. Further investigations were done and examination bone marrow sample showed the presence of leukemic blast cells consistent with ALL.

During the next 2 yrs he underwent intensive cycles of chemo and radiotherapy , and 3/12 ago he had an allogenic BMT. He was doing fine after until 5 days ago when started developing skin rash. he presented to the ER with generalized skin rash, diarrhea, and abdominal cramps. He was admitted for further blood work and gastrointestinal endoscopy , Δ GVHD.

Upon interview, his mother reported that he has fair appetite and food intake, has lost more than 5 kgs ever since he was diagnosed with ALL, dislikes egg and red meat.

Current Wt = 18.5 kg , Ht= 116, Meds : Cyclosporine and Pridnisone ,

Diet Rx: DFA.

Labs:

WBC	3.0	3.3-8.7 K/uL
Neutrophils	2.6	3-5%
RBC's	3.9 L	3.93-5.69 M/uL
Hgb	11	12.6-16.1 g/dL
Hematocrit	35	35-45%
MCV	70	77-95 μ m ³
Calcium	9.3	8.8 - 10.3 mg/dL
Chloride	99	95 - 107 mmol/L
Magnesium	1.9	1.6 - 2.4 mmol/L
Phosphate	3.6	2.5 - 4.5 mg/dL
Potassium	3.7	3.5 - 5.2 mmol/L
Sodium	140	135 - 147 mmol/L

Using the above mentioned information please answer to the following questions:

1. Perform an assessment based on the anthropometric data. (show all calculations) (3.0 Marks)

0.25 Wt/age is $< 5\%$, IWt/age = 26 0.25 , %

0.25 IWt/age = $18.5 / 26 = 72.5\%$

0.25 Ht/age is $< 5\%$, IHt/age = 128 0.25

0.25 Wt/Ht is $< 5\%$, IWt/Ht = 20.7 0.25

0.25 BMI = $18.5 / 116^2 \times 10000 = 13.7$ and its $< 5\%$

Acute malnutrition status = $18.5 / 20.7 \times 100 = 89.5$ 0.25 (Mild Malnutrition) 0.25

Chronic malnutrition status = $116 / 128 \times 100 = 90.6$ 0.25 (Mild Malnutrition) 0.25

wt - Age = 5 yrs 0.25

Calculate nutritional requirements (2.5 Marks)

0.75 Energy: $90 \times 26 / 18.5 = 126 \text{ kcal} \times 18.5 = 2340 \text{ kcal}$

0.75 Protein: $1.1 \times 26 / 18.5 = 1.54 \times 18.5 = 28 \text{ gm} = 4.8\%$

give upto 10-15%

$57 - 86 \text{ gm} \times 10 - 15\%$ % of kcal)

0.5 Fat: $0.4 \times 2340 / 9 = 104 \text{ gm}$ (40%) % of kcal)

0.5 CHO: $0.5 \times 2340 / 4 = 292.5 \text{ gm}$ (50%) % of kcal)

Provide ↑ kcal, ↑ protein supplement eg: pediasure
Boost ----

1. Calculate exchanges for meal planning

(1.5 Marks)

Exchanges	CHO gm	Pro gm	Fat gm
Milk (1-2)			
Veg. (2-5)			
Fruits (2-3)			
	Total =	Total =	Total =
Bread (6)			
		Total =	Total =
Meat (3-4)			
			Total =
Fat (4-5)			

2. Discuss your recommended diet therapy

(2.0Marks)

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- 0.5 = ↑ kcal ↑ prot diet .
 - 0.5 = ↓ Microbial diet .
 - 0.5 = Iron Rich food .
 - 0.5 = ↑ kcal ↑ prot supplement .
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Question II

Norah is a 56 yrs old Saudi female , transferred to ward 32 A through ICU, where she was admitted 5 weeks ago with left arm pain radiating to shoulders, chest pain and difficulty of breathing and LLE. She is a known case of HTN for 10 yrs and NIDDM for 14 yrs. Δ CHF and respiratory failure.

Ht = 153 , Wt = 95 kg , Diet Rx : low cholesterol 2000 kcal.

Labs :

Random glucose	8 mmol/L		
Sodium	140 mmol/L	135 - 147	mmol/L
Chloride	100 mmol/L	95 - 107	mmol/L
Potassium	4.5 mmol/L	3.5 - 5.2	mmol/L
Urea	7.5 mmol/L	3 - 7	mmol/L
Creatine	80 μ mol / L	50-90	μ mol / L

Upon interview, her watcher reported that he has a fair food intake and appetite .no known allergies or disliked.

Using the above mentioned information please answer to the following questions:

1. Perform an assessment based on the anthropometric data. (show all calculations) (3.0 Marks)

0.75 dry wt = $95 - 2 = 93$ kg
0.5 BMI = $93 / (1.53)^2 = 39.7$ kg/m² (obese class II)
0.5 IBW = $22.1 \times (1.53)^2 = 51.7$ kg
0.5 %IBW = $93 / 51.7$ kg = 179.8% (obese)
0.75 Adj. wt = $(93 - 51.7) \times 0.25 + 51.7 = 62$ kg

2. Calculate Energy and nutrient requirements (3.0 Marks)

0.75 BEE = $655 + (9.56 \times 62) + (1.85 \times 153) - (4.88 \times 56)$
= 1268×1.2
= 1522 kcal/day
0.75 prot 17% = $0.17 \times 1522 / 4 = 64.6$ gm (1gm/1kg)
0.75 CHO 53% = $0.53 \times 1522 / 4 = 201.6$ gm
0.75 Fat 30% = $0.30 \times 1522 / 9 = 50.7$ gm

3. In highlight of the given diet Rx, discuss your recommended dietary intervention: (4.0 Marks)

- 0.5 - Diabetic diet
- 1.5 - ↓ salt - Fluid restriction
- 0.5 - ↓ gas forming + stimulant
- 0.5 - wt. reducing plan
- 0.75 - ↓ cholesterol, ↑ fiber, ↓ fat
- 0.25 - if she put the pt on ↑ kcal, ↑ prot diet.

Best wishes