

# 2<sup>nd</sup> Clinical Nutrition Update 2010

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## **CASE PRESENTATION CHYLE LEAK**

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# CASE STUDY 1

- 1 year male
- H/O –Generalized oedema, Failure to thrive, Facial dysmorphism
- Lab – Hypoproteinemia
- Diagnosis :? Hennekam syndrome

# NUTRITION ASSESSMENT

- Admit weight - 6.5 Kg  
1. Anthropometric Measurement  
Ideal wt - 10.2 kg

- Admit height - 66 cm  
Ideal ht - 76.1 cm

% wt for ht - 60%(Wasting-severe)

% ht for age - 85%(Shunting-moderate)

Nutrition related diagnosis-Severe Malnutrition

## 2. Diet History **NUTRITION ASSESSMENT**

- Not started on solid diet.
- On Similac Alimentum formula.  
Approx cal intake: 300-400 K.cal  
Protein : 8-9 gm

# NUTRITIONAL REQUIREMENT

Estimated by catch up Growth formula

Calorie needs –  $\frac{\text{DRI for energy} \times \text{Ideal wt for ht (kg)}}{\text{Actual wt (kg)}}$

Protein needs –  $\frac{\text{DRI Protein for age} \times \text{Ideal wt for ht (kg)}}{\text{Actual wt (kg)}}$

DRI – Dietary Reference Intake

Required Calories : 1100k.cal

Required Protein : 17gm

Ref:- Manual of Pediatric Nutrition by Hendricks & Duggan

# DIET IN HOSPITAL

<b>Days</b>	<b>Diet prescribed</b>	<b>Calorie intake (K.cal)</b>	<b>Protein intake (Gm)</b>
Day 1	Similac Alimentum	320	8
Day 2-6	Weaning diet	370-420	8-10
Day 7-8	Soya based formula+Diet	550 - 600	14 -15

# DIET IN HOSPITAL

Day	Diet prescribed	Calorie intake (K.cal)	Protein intake (Gm)	Lab – TGL Mg/dl
Day 9 NBM for procedure -Pericardial tube drainage – chyle leak				
			353	
Post procedure Day 1	RTF @25ML/HR	438	13	
Day 2 -3	Liquid diet – Soya based formula	540-562	14-15	
Day 4-5	Liquid diet - Soya based formula –Fruit juice	600- 650	16	
Day 6 NBM for surgery - Anterior pericardiectomy +closure of diaphragmatic rent				

# DIET IN HOSPITAL

<b>Days</b>	<b>Diet prescribed</b>	<b>Calorie intake (K.cal)</b>	<b>Protein intake (Gm)</b>	<b>Lipid (Gm)</b>	<b>TGL Mg/dl</b>
<b>Post OP Day1-2</b>	TPN @ 10ml/hr (240ml) -Central line	242	9	9.6	
<b>Day 3-4</b>	TPN @ 12ml/hr-	291	11	11.5	
<b>Day-5</b>	TPN @ 12ml/hr- (288ml)	291	11	11.5	281
<b>Day 6 –EN INTIATED</b>					



# Formula – Monogen Nutricia(imported)

- High in MCT (90%),
- Whey protein
- 6% of total kcal from LCT
- Sucrose, fructose and gluten free



# DIET IN HOSPITAL

<b>Days</b>	<b>Diet prescribed</b>	<b>Diet suggested</b>	<b>Calorie intake (K.cal)</b>	<b>Protein intake (Gm)</b>
Post OP Day 6	RTF @ 12ml/hr(288ML )	Monogen	244	6.5
Day 7	RTF @ 18ml/hr(432ML)	Monogen	305	8.2
Day 8	Oral liquids 60ml/2 hr(720ML)	Monogen	610	16
Day 9 Semisolid diet				

# MCT - OIL

## Medium chain triglycerides

- Bypass lymph gland
- Directly absorbed in to portal venous system

# DIET IN HOSPITAL

Days	Diet prescribed	Calorie intake (K.cal)	Protein intake (Gm)
Post OP Day 9	Semisolid with MCT oil 3ml	600	16
Day 10	Soft solid diet with MCT oil 5ml	615	16
Day 11 Discharge			

# DISCHARGE DIET EDUCATION

- Discharge Weight – 6.66kg
- Diet advised  
1100 K. CAL, 17 gm protein Diet  
Fat - MCT OIL– 6ML/DAY

# CASE 2

- 11 year old female
- H/O – Ebsteins anomaly repair
- Diagnosis – Massive chylous pericardial effusion with cardiac tamponade

# NUTRITION ASSESSMENT

- Anthropometric Measurement
  1. Admit weight-25kg  
Ideal weight -33.7kg
  2. Height- 138 cm  
Ideal height- 142cm

%wt for ht- 75%(Wasting\_Moderate)

% ht for age – 97%(Shunting- Nil)

cont.

# NUTRITION ASSESSMENT

- GI Symptoms - Nil
- Food allergy – Nil
- Nutrition related diagnosis – Acute Malnutrition



# DIET HISTORY

- On normal diet

Approx cal intake: 1300 K.cal

Protein : 30 gm

Calorie Requirement: 2250 K.cal

Protein Requirement: 45 gm

# NUTRITION CARE PLAN

Days	Diet prescribed	Calorie intake (K.cal)	Protein intake (Gm)	Lab TGL Mg/dl
Day 1	High Protein normal diet	1200	28	
Day 2	NBM PROCEDURE - Pericardial Effusion			32
<b>Post procedure</b> Day1	High protein semi solid diet 1400ml F/R	800	20	
Day 2-3	High protein soft solid diet 1400ml F/R	910-960	24-26	49

# NUTRITION CARE PLAN

Days	Diet prescribed	Calorie intake (K.cal)	Protein intake (Gm)	Lab TGL Mg/dl
Day 4	High protein diet	920	25	747
Day 5-	Fat free diet MCT oil-6ml	933 -	22	158
Day 6	Fat free diet MCT oil-9ml	1050	30	47
Day 7	NBM –Drain removal Fat free diet from 2pm MCT oil-6ml	833	20	44

# NUTRITION CARE PLAN

Days	Diet prescribed	Diet suggested	Calorie intake (K.cal)	Protein intake (Gm)
Day 8 - 10	Fat free diet	MCT Oil -8 ml Monogen -6 scoop Egg white included	1020-1233	32-36
Day 11- 14	Fat free diet	MCT Oil 10ml	1240-1350	35-42
Day 15 - Discharge				

# DISCHARGE DIET EDUCATION

- Discharge Weight - 25.5kg
- Diet advised

2250k.cal, 50 gm protein, Fat free diet -4 weeks

Monogen -3 Scoop in 200ml Nestle slim milk 3fd/day

MCT Oil 10ML.

# NUTRITIONAL MANAGEMENT

1. Maintain / improve nutrition
2. Decrease production of chyle fluid