

Gastric Kaposi Sarcoma in an AIDS Patient

A Case Study

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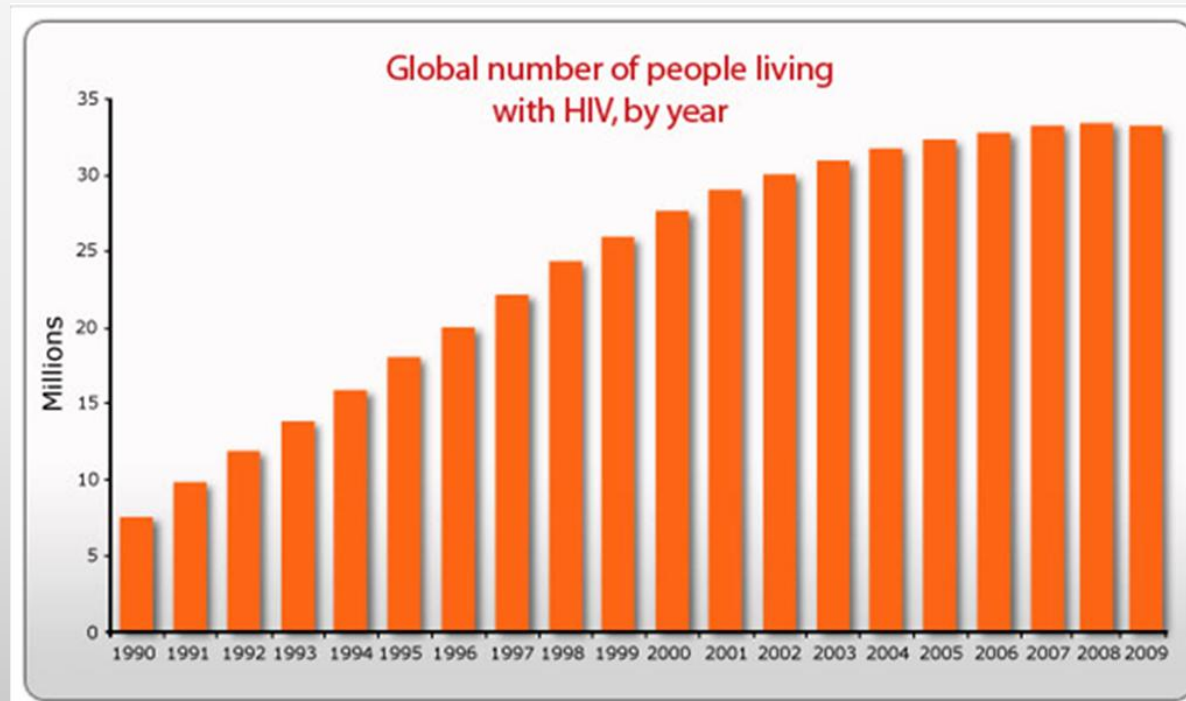
April 19, 2011

Purpose

- This case study will examine the effects on nutrition and the nutritional interventions in a patient who presents with advanced AIDS complicated by gastric Kaposi Sarcoma

Background of Disease Condition

HIV/AIDS



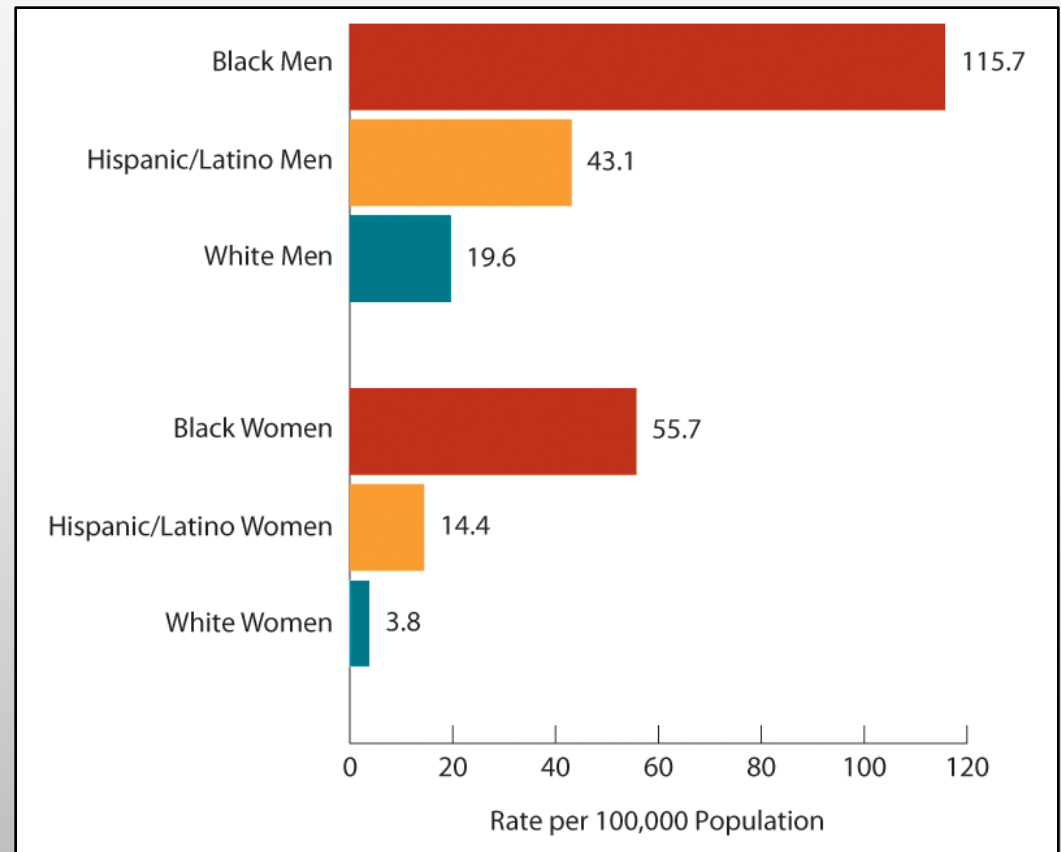
Source: World Health Organization (WHO)

- Highly active antiretroviral therapy (HAART) - 1996

Background of Disease Condition

HIV/AIDS

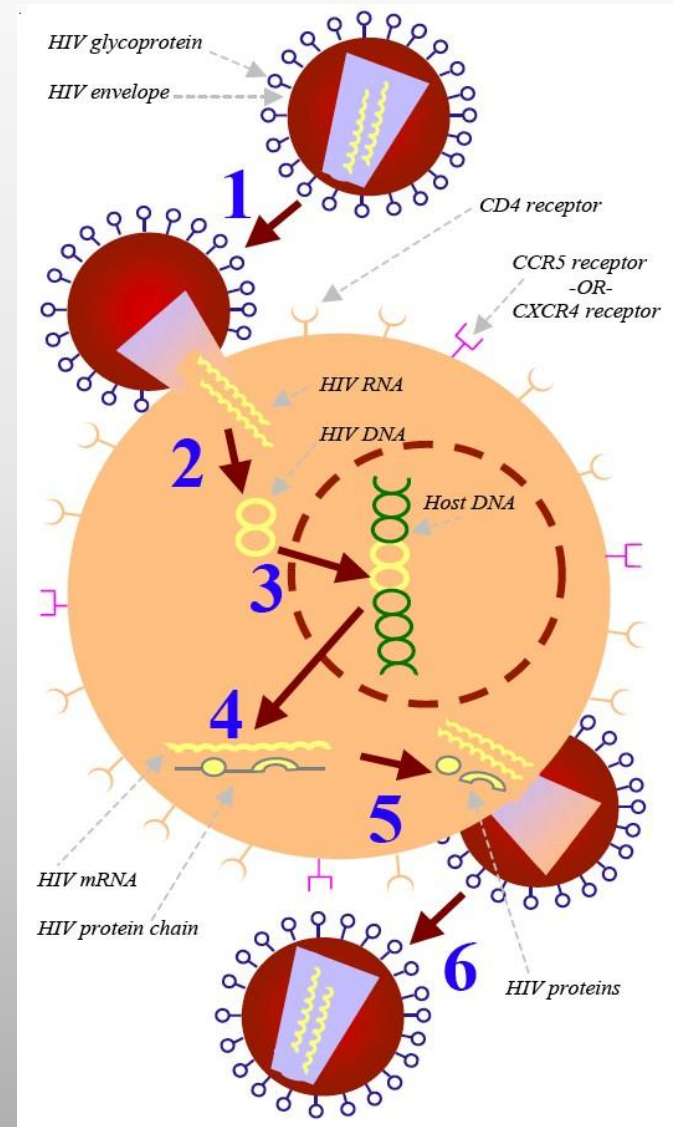
- Incidence of HIV in U.S.
 - Gender
 - Ethnicity



Source: Center for Disease Control (CDC)

Pathophysiology

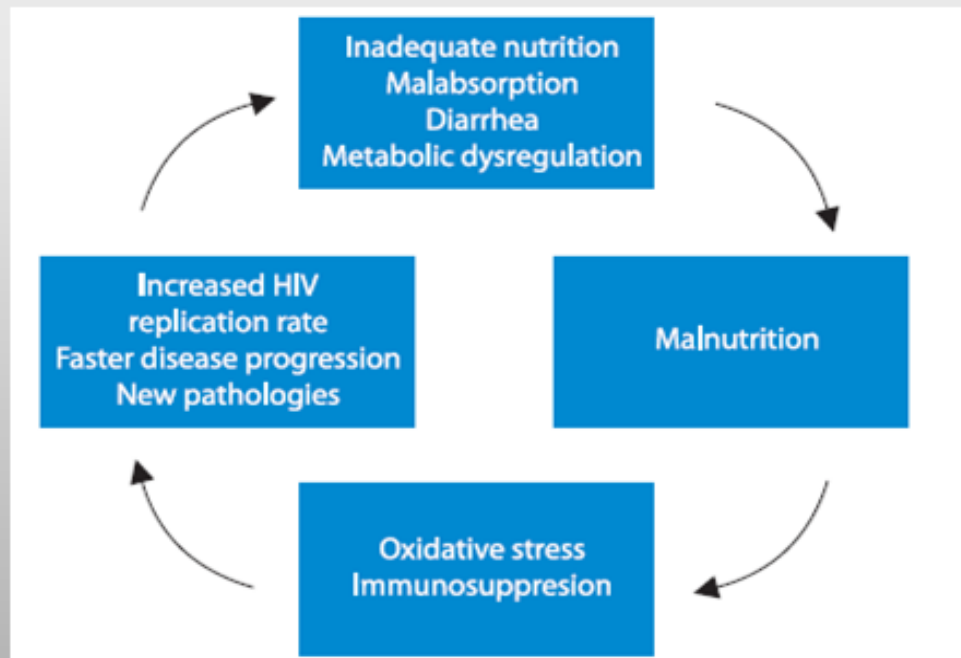
- HIV virus attacks CD4 cells
 - Suppression of immune system
- Progression to AIDS
 - CD4 count < 200 cells/mm³
 - Diagnosis of AIDS-defining condition



Nutritional Complications

HIV/AIDS

- AIDS wasting syndrome
- Lipodystrophy
- Opportunistic infections/malignancies



Source: *HIV&AIDS REVIEW*

Background of Disease Condition

Kaposi Sarcoma

- Opportunistic malignancy
- AIDS-defining condition
 - CD4 count < 200 cells/mm³

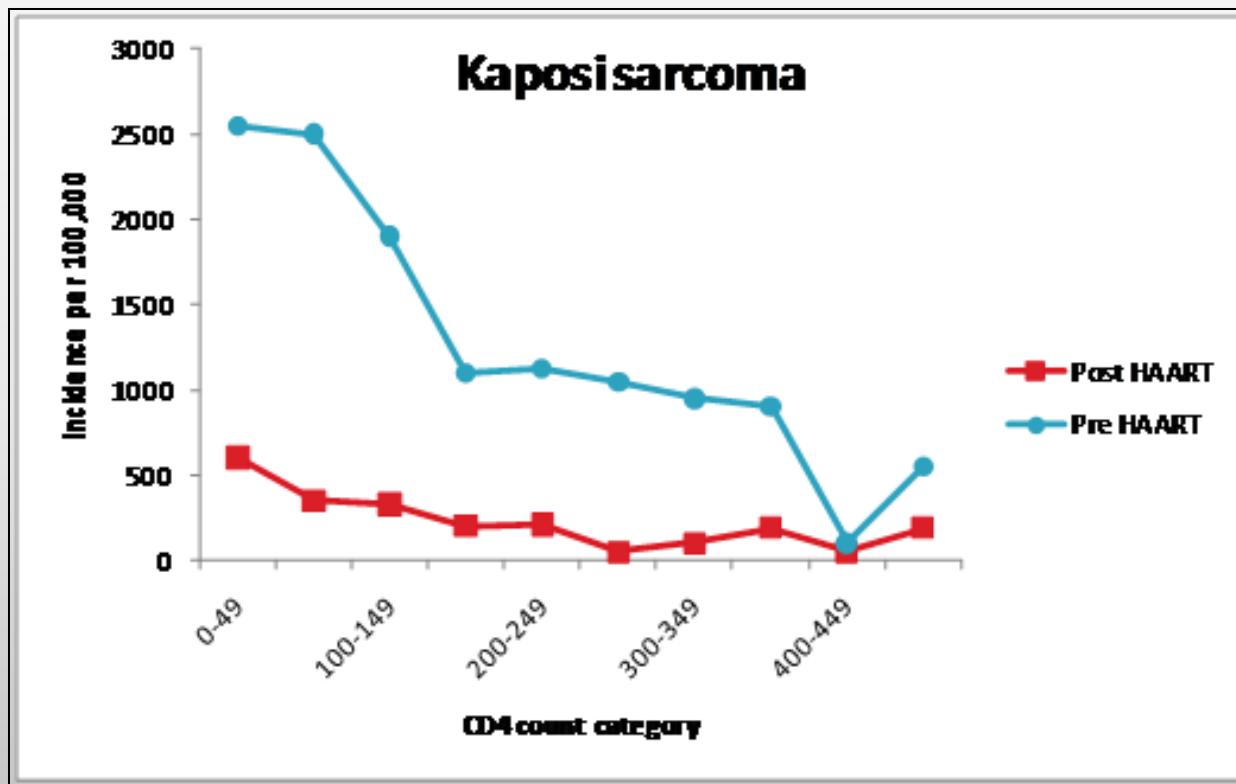
Kaposi Sarcoma

- Types of Kaposi Sarcoma
 - Mucocutaneous
 - Skin lesions
 - Visceral (any part of the GI tract or lungs)
 - Lesions and Masses
 - Present in less than 40% of diagnoses

Kaposi Sarcoma-Etiology

- Caused by infection with Kaposi sarcoma herpesvirus (KSHV)
- Risk Factors:
 - HIV infection
 - CD4 count < 200 cells/mm³
 - Absence of HAART
- In the U.S. KS is most common with
 - Men
 - African Americans

Kaposi Sarcoma-Incidence



Source: J Natl Cancer Inst

Diagnosis and treatment

- Diagnosis
 - Esophagogastroduodenoscopy (EGD)
 - KS confirmed through biopsy
- Treatment
 - HAART
 - Chemotherapy

Introduction of Patient (KB)

Background

KB is a 23 year old, transgender male-to-female African American

Socioeconomic background

- Homeless for two years
- Estranged from family
 - Contact reinstated shortly prior to admit
 - Poor support
- Employed as a prostitute

KB- Medical History

Past Medical History

HIV/AIDS

Thrush

Pneumonia

Cytomegalovirus (CMV)

Candida esophagitis

Meth use

Mycobacterium avium complex

Significant for:

- multiple secondary opportunistic infections
- non-compliance with HAART medication

KB- Medical History

Hospitalizations	Principle Diagnosis
6/15/2010	Anemia, SIRS
8/28/2010	Esophageal candidiasis
9/17/2010	AIDS
10/13/2010	SOB, cough, fever, AIDS

- Prior to these dates, pt hospitalized on multiple occasions at Mercy Hospital

KB- Current admission

- Admitted November 4, 2010
- Symptoms
 - Weakness
 - Cough
 - Chest pain
 - Diarrhea
 - Nausea and vomiting
 - Abdominal pain
- Initial diagnoses
 - AIDS, opportunistic infection, probable pneumonia

Initial Nutritional Assessment

Physical Findings

Height	Weight	IBW	%IBW	BMI
72in (188cm)	158lb (72kg)	190lb (86kg)	83%	20

- Weight loss- 13lbs over 2 months (7% wt loss)
 - Nausea and Vomiting
 - Decreased appetite
 - Abdominal pain
- Diarrhea
 - Chronic problem
 - Stool tests sent

Labs at admission

Na	133↓
K+	4.1
Cl	100
Ca	9.1
Phos	3.2
BUN	8
Creat	0.7
GFR	>60
Glucose	87
Albumin	2.9↓
Prealbumin	9↓ (11/9)
CRP	25.2↑ (11/12)
CD4 count	4↓

Pertinent medications

- HAARTs
- Fe
- Reglan
- Zofran
- Scopalamine patch
- Phenergan
- Antibiotics

Estimated Needs

Energy: 2520-2880kcal (35-40kcal/kg)

BEE: 1840kcal

Protein: 108-144gPro (1.5-2g/kg)

- UCSD Policy
 - >100% IBW: 25-30kcal/kg
 - >90% IBW: 30-35kcal/kg
 - <90% IBW: 35-40kcal/kg
 - Protein no less than 1.5g/kg (unless renal issues)

Estimated Needs

Rationale

- Increased needs with HIV / AIDS
 - HIV: 8-15% increase in BEE
 - AIDS: 20-30% increase in BEE
 - At least 30% increase when opportunistic infections present
 - Protein: 1.5-1.8g/kg

-Source: A.S.P.E.N

- Additional factors to consider
 - Vomiting
 - Diarrhea
 - Recent weight loss
 - Poor appetite

Nutrition Diagnosis and Plan

**Involuntary wt loss R/T loss of appetite and nausea/vomiting
AEB 13lb weight loss x2mo**

Goal: Pt to tolerate >75% of oral intake + supplements by next f/u

Plan:

- Change diet to High kcal/High protein
- Provide Ensure and snacks TID
- Consider multivitamin
- Check baseline prealbumin, then weekly to trend
- Weigh pt 3x/week (MWF) to trend

Treatment and Medical Course

Overview

Hospital Problem List	
Main Diagnosis	
HIV/AIDs	
Opportunistic Infections/Malignancies	
Kaposi sarcoma	Sepsis
Esophageal Candidiasis	Hepatitis
Acute Pancreatitis	Perianal ulceration
Severe Luekocytosis	Intra-abdominal infection
Gram-positive bacteremia	Cytomegalovirus (CMV)
Mycobacterium avium complex	
Other	
Bascilar Atelectasis	Eosinophilia
Tachycardia	Hyponatremia
Nausea and Vomiting	Diarrhea

Diagnosis of Kaposi Sarcoma

Nausea and Vomiting

- Initially treated with anti-emetics
- No improvement
- Continued abdominal pain

Computed tomography (CT) abdominal scan

Nov 25- gastric mass

- Esophagogastroduodenoscopy (EGD) Nov 26
 - Differential dx: malignancy vs Candida vs MAC
- Biopsy confirmed mass to be Kaposi Sarcoma
 - Gastric obstructing

Treatment Overview

- HAART
 - Included: Norvir, Daunavir, Truvada, Etravirine, Fuzeon, Tenofovir, Emthricitabine, Enfuvirtide
- Chemotherapy
 - Doxorubicin
 - December 11
 - January 1
 - January 15
 - Toxil
 - March 10
 - March 17
 - April 14
- Complicated by continued secondary infections

Nutritional Implications

- Etiology of persistent nausea and vomiting clear

Concerns:

- Provision of adequate nutrients
- Optimizing oral intake as feasible

Medical Nutrition Therapy

Nutritional Interventions

Kaposi Sarcoma- MNT

- Problem: How to provide adequate nutrition in presence of gastric obstruction (KS)
- Recommendations:
 - Initiate distal tube feedings into the small intestine
 - Semi-elemental formula (Peptamen AF 1.2) at 85ml/hr
 - Provides 2448kcal and 155g protein
 - 97% minimum kcal needs
 - 100% minimum protein needs

Kaposi Sarcoma- MNT

Rationale

- Distal tube feeds
 - Gastric obstruction
 - Functional gut
- Semi-elemental formula
 - Chronic diarrhea
 - Concern for malabsorption

Kaposi Sarcoma- MNT

- Problem: How to optimize oral intake when po tolerance is minimal
- Recommendations:
 - Anti-emetic regimen
 - Small, frequent amounts of po intake
 - Soft textured foods
 - Oral supplements
 - Ensure
 - Resource Breeze
 - Juven



Kaposi Sarcoma- MNT

Enteral Access delayed

- Total parenteral nutrition (TPN) initiated Nov 26
 - Stopped Feb 14th
 - March 4-14th (Pancreatitis)
- TPN Rx: D15 A5% at 100mL/hr + IL 20mL/hr x12 hrs
 - 2184kcal and 120g protein
 - 86% minimum kcal needs
 - 100% minimum protein needs

Kaposi Sarcoma- MNT

Enteral Access

- Nasojejunal (NJ) tube placed December 10th
 - Removed December 24- non functional
- Percutaneous endoscopic gastrostomy (PEG) tube placed January 6th
 - Trickle feeds only
- Gastro-jejunal (G-J) bridge February 14th
 - Feeds stopped intermittently
 - Pancreatitis

Kaposi Sarcoma- MNT

Oral Nutrition

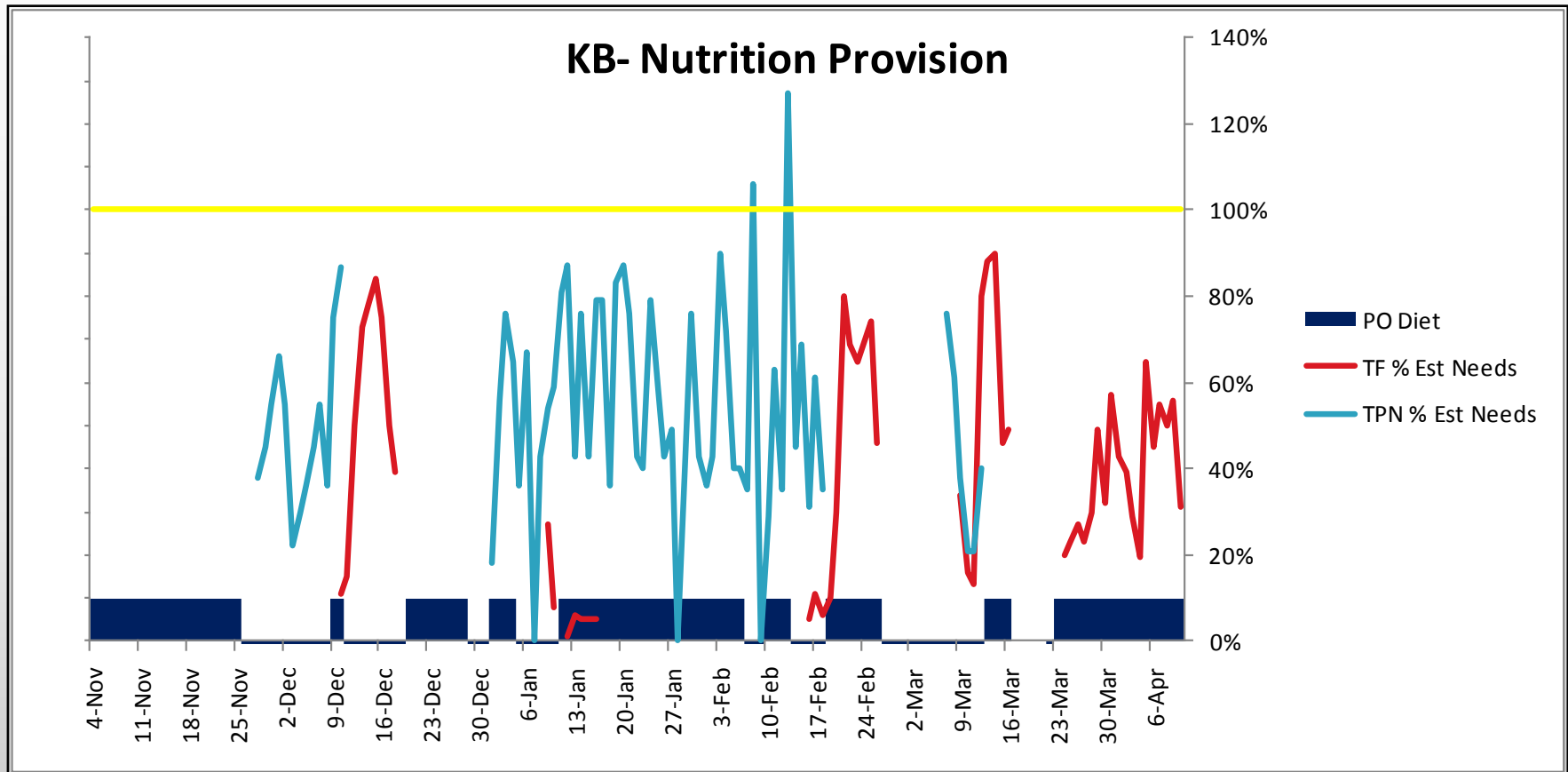
- NPO upon diagnosis of KS
- Re-introduction of PO diet – December
 - NPO, Clears, Full Liquids, Mechanical Soft diets
 - Wide fluctuations in appetite, tolerance
- Persistent nausea, vomiting, pain with po

Oral Medications

- HAART therapy frequently suspended
 - Abdominal pain and nausea
 - Pt refusing

Medical Nutrition Therapy

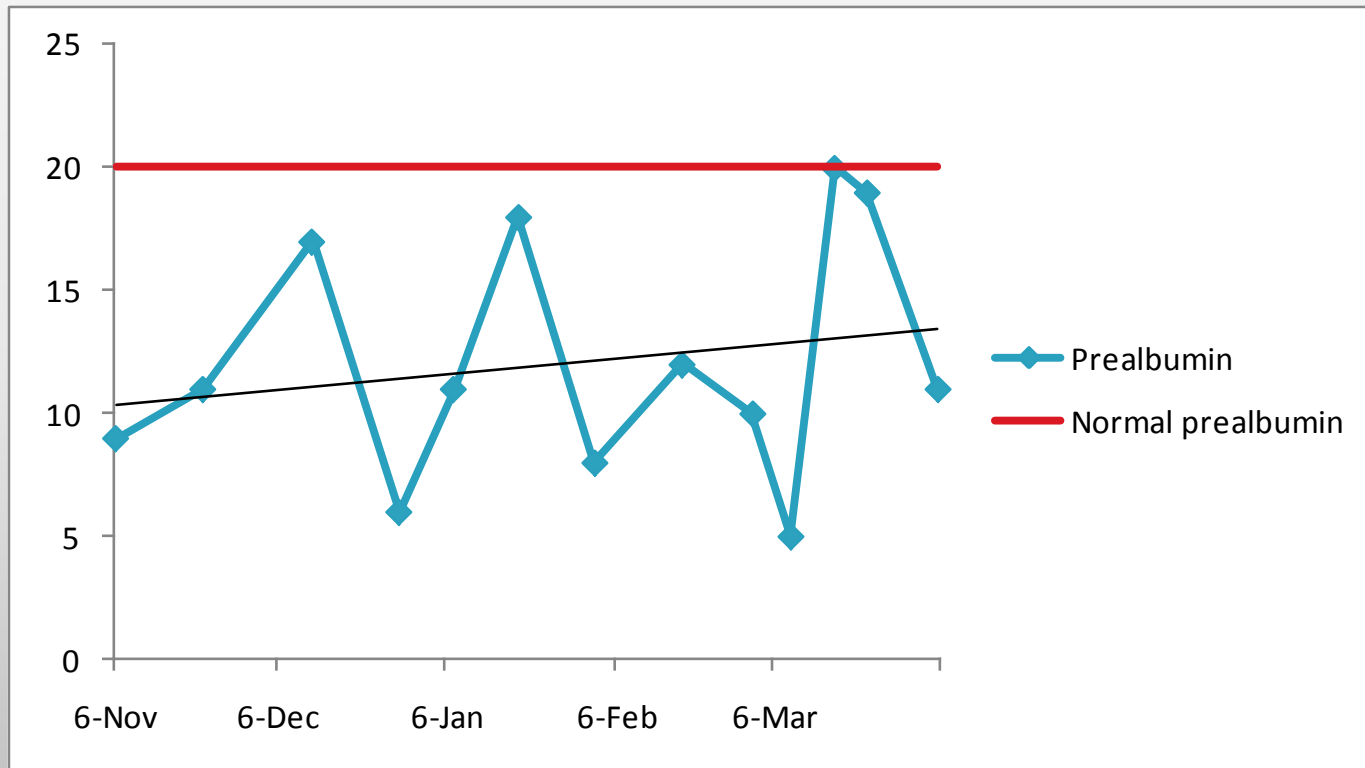
Monitoring and Evaluation



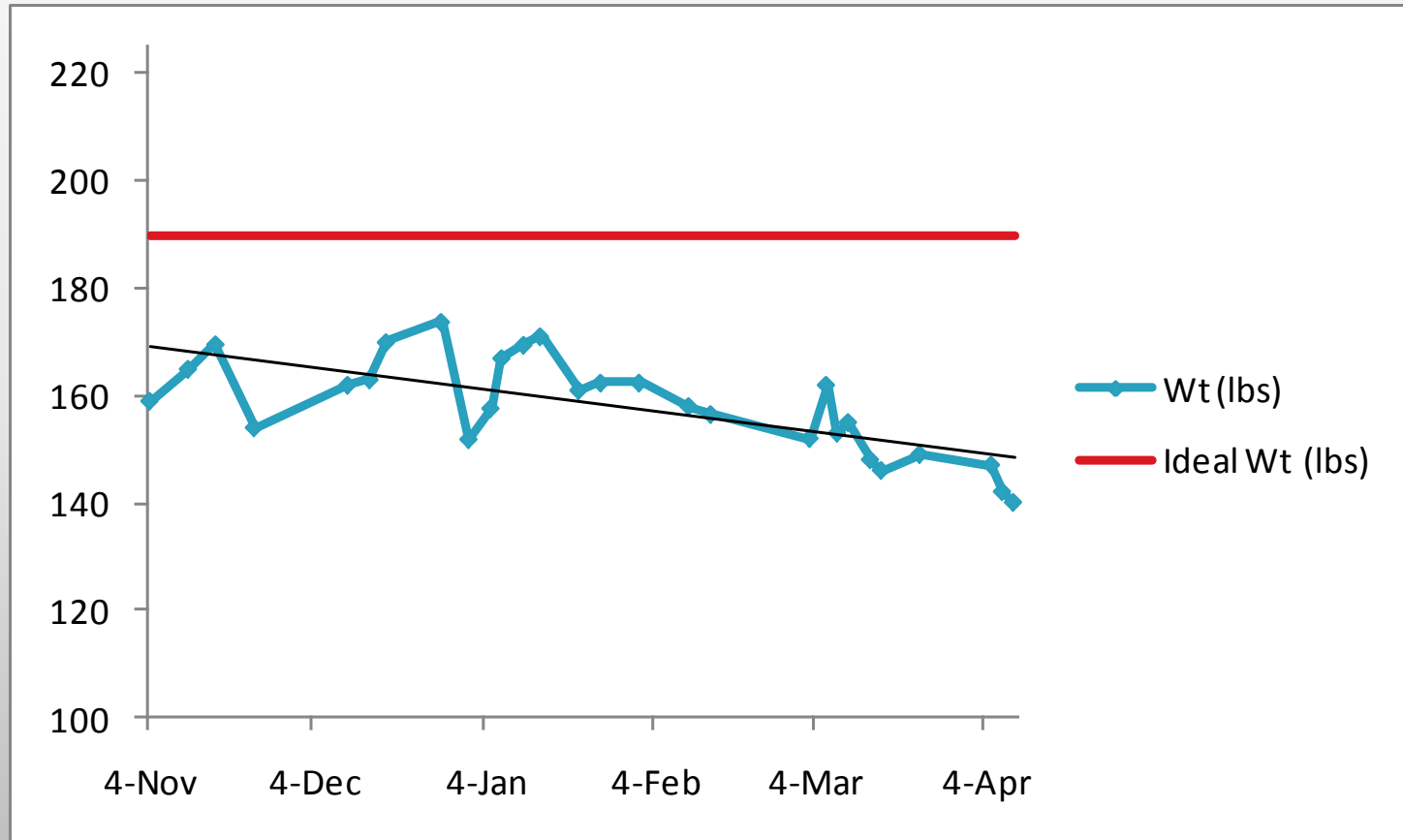
Nutrition Support

- EN and TPN consistently below needs
- Oral intake minimal

Prealbumin trend

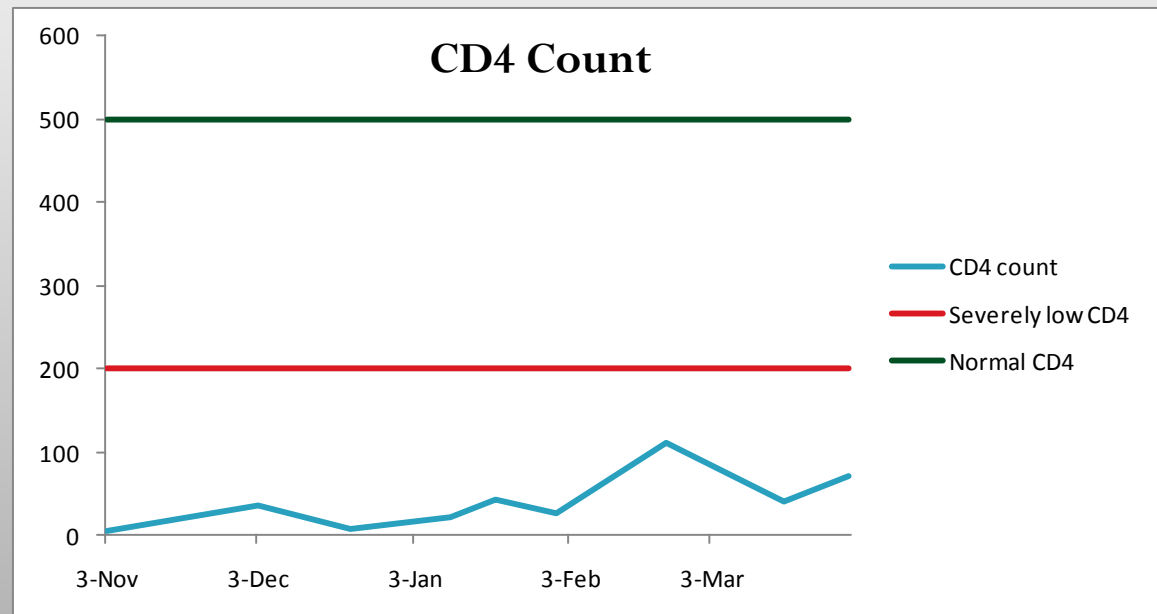


Weight trend



Kaposi Sarcoma

- CT scans
 - No change in size of mass indicated
- Inconsistent treatment
 - Reflected in low CD4 count



Discharge plan

- Secondary infections
 - Currently resolved
- AIDS
 - HAART through J-tube
- Kaposi Sarcoma
 - Chemotherapy as outpatient
- Nutrition
 - Enteral nutrition
 - Nocturnal vs continuous
 - Mechanical soft diet as tolerated
 - Oral supplements

Prognosis

- Pre HAART
 - Survival of at least 5 years after diagnosis <10%
- Post HAART
 - Overall: 60% survival rate
 - Mucocutaneous KS: 90% survival
 - Visceral (gut): 50% survival
 - Visceral (lungs): 30% survival

-Source: National Cancer Institute

Conclusion

- HIV / AIDS impact on nutrition
 - Increased needs
 - Opportunistic infections/malignancies
- Gastric Kaposi Sarcoma
 - Complicates nutrient provision

Adequate nutrition, when combined with HAART, can contribute to increased quality of life and lengthened survival