

ANOREXIA NERVOSA SAQ

28 year old woman weighing 28 kg, with a known diagnosis of anorexia nervosa, presents with h/o fever diarrhoea and vomiting. She had discharged herself against medical advice 3 days prior to presentation.

1) What is the definition of Anorexia Nervosa and how does it differ from bulimia Nervosa (2 marks)

Anorexia Nervosa is a Life-threatening eating disorder characterized by self-starvation and excessive weight loss in context of a false perception of being overweight despite not being so.

Bulimia nervosa is a serious psychiatric illness characterised by recurrent binge-eating episodes (the consumption of abnormally large amounts of food in a short period of time), immediately followed by self-induced vomiting, fasting, over-exercising and/or the misuse of laxatives, enemas or diuretics.

[<https://www.eatingdisorders.org.au/eating-disorders-a-z/bulimia-nervosa/>]

2) List 4 diagnostic criteria for Anorexia, along with suitable examples where needed? (4 marks)

(DSM V criteria)

- Restriction of energy intake that leads to a low body weight, given the patient's age, sex, developmental trajectory, and physical health. (Body weight $> 15\%$ below expected or BMI < 17.5)
- Intense fear of gaining weight or becoming fat, or persistent behavior that prevents weight gain, despite being underweight.
- Body Image distortion

Amenorrhoea + other endocrine disorders etc removed from prior criteria. (however still present in Dunn and may be used by ACEM exam markers)

Her observations are provided:

Temp: 39.1 °C
HR: 142 Sinus Tachycardia
SBP: 65 mmHg
GCS: 15
SaO₂: 100% on RA
RR: 24

3) State 4 bedside key investigations you would perform in the ED on this patient. Provide your rationale for each investigation (4 marks)

	Investigation	Rationale
1	BSL	To seek and treat hypoglycaemia
2	VBG	Check for dyselectrolytaemia, Particularly for potassium, Calcium, Sodium, acid base status (HypoK, HypoCal, HypoNat, HypoPhos)
3	ECG	Looking for signs of dyselectrolytaemia eg U waves, prolonged QT, Severe Bradycardia, AF
4	Urine Beta HCG	Check her pregnancy status

4) State 4 key laboratory investigations you would perform in the ED on this patient. Provide your rationale for each investigation (4 marks)

	Investigation	Rationale
1	FBE	Evaluate Anaemia and thrombocytopaenia, and WCC
2	Electrolytes	Check for dyselectrolytaemia, Particularly for potassium, Calcium, Sodium, Magnesium & Phosphate
3	Urea Creatinine	To ascertain the renal function status
4	LFT	Check for hypo- albuminemia

Her FBE results are provided:

FBE	Today	3 days ago
Hb	77	105
WCC	1.5	5
Neutrophils	1.4	4
Lymphocytes	0.1	0.8
Platelets	30	103

5) List 4 important probable cause for this acute pancytopenia

1	Acute Bone Marrow necrosis secondary to severe malnutrition
2	Severe sepsis
3	Consumption Coagulopathy, eg DIC
4	Diluted sample

6) List 8 other indications for hospitalization in a patient with anorexia (8 marks)

1	Bradycardia – Day time <50/min, Night time <45/min (< 40 as per Dunn)
2	Hypotension – SBP <90mmHg, DBP<60mmHg
3	Temperature < 35 °C or > 38 °C
4	Symptomatic hypoglycaemia
5	K+ < 3mmol/L
6	Prolonged QTc
7	BMI < 17.5
8	Failure of outpatient therapy

You decide this patient requires admission to hospital.

7) List 4 short term medical, and 4 long term medical complications that may occur after. (8 marks)

	Short Term	Long Term
1	Hypophosphatasemia (hall mark of refeeding syndrome) - Progressive myopathy	Osteoporosis - fractures
2	Hypokalaemia - dysrhythmias	Cognitive Abnormalities due to loss of grey matter during starvation
3	Hypomagnesemia - dysrhythmias, seizure	Bone marrow necrosis from severe malnutrition
4	Acute Thiamine deficiency - Wernicke's encephalopathy	Mitra valve prolapse

Further blood results are provided

Na - 138 (135-145)	Ca - 1.82 (2.15-2.65)	INR - 1.8 (<1.3)
K - 3.2 (3.5-5.2)	Mg - 0.54 (0.60-1.10)	D Dimer - 2.39 (<0.50)
Cl - 105 (95-110)	P - <0.30 (0.75-1.50)	Fibrinogen - 4.4 (1.5-4.0)

8) List 6 key management steps for the above patient including any drugs required (6 marks):

1	Treat shock with 10-20ml/kg of Normal Saline, aim for SBP >90mmHg, urine output 0.5ml/kg/hour
2	Broad Spectrum Antibiotics to treat potential sepsis eg. Tazocin 4.5gm IV
3	Correct dyselectrolytemia – K, Ca, P & Mg replacement
4	Vitamin K - IV 10mg
5	IV Thiamine 300mgs followed by 100mg TDS orally
6	Urgent referral to ICU for admission and admit under General Medicine unit with Psychiatry input, monitor for refeeding syndrome

EXTRA Potential Questions

9) List five (8) examination findings that you would seek on examination for a patient. (8 marks)

1	Loss of subcutaneous fat – triceps fold, bicipital circumference
2	Hypotension – SBP <90mmHg, DBP<60mmHg
3	Bradycardia – Day time <50/min, Night time <45/min
4	Hair loss – Lanugo body hair
5	Temperature < 35 °C or > 38 °C
6	Breast atrophy
7	Enamel erosion due to effects of acid from induced vomiting
8	Dry skin

10) What principles of risk assessment need to be considered when deciding her treatment? (4 marks)

1	Current weight and BMI compared to ideal body weight
2	Current electrolyte status
3	Resting heart rate and postural change
4	Temperature < 35 °C

11) List 6 common physical symptoms that a patient with anorexia nervosa may present with to the ED. For each, list one potential underlying cause. (12 marks)

	Symptoms	Reasons
1	Chest pain	Cardiomyopathy
2	Palpitation	Dysrhythmias secondary to dyselectrolytemia
3	Fever or shock	Sepsis secondary to pancytopenia as a result of bone marrow suppression
4	Syncope	Hypoglycaemia, severe anaemia
5	Generalised weakness	Secondary to dyselectrolytemia particularly hypokalaemia, hypophosphataemia
6	Fractures	Secondary to osteopaenia