

1) 20yr M

Generalized Body swelling = 4/12.

Normal urine output + No SOB

No casts

No RBCs.

a) Most likely diagnosis \Rightarrow 1 mk.

* Nephrotic Syndrome = Proteinuria 3.5g/24hours.

• Hypoalbuminemia

• Edema

b) Clinical features that characterize this condition. \Rightarrow 4 marks.
or Lab.

✓ Massive proteinuria

✓ Edema \Rightarrow Periorbital edema initially

✓ Hypoalbuminemia

✓ Hyperlipidemia \Rightarrow \uparrow TG, \uparrow LDL.

* Hypercoagulable State \Rightarrow Pulmonary embolism

* Increased susceptibility to infection.

* Hypertension in some cases.

* Possibly frothy urine.

* Hypocalcemia = Tetany, Paresthesia, muscle spasms.

* Underlying causes \Rightarrow Malar rash in SLE

Others.

c) 6 Secondary causes of condition in Africa.

- Diabetic nephropathy

- Lupus Nephritis

- Amyloid nephropathy = Multiple Myeloma AL amyloidosis
Rheumatoid Arthritis AA amyloidosis.

- HIV

- Drugs \rightarrow NSAIDs.

- Syphilis

- Solid organ malignancies

- Hep B and Hep C

- Obstructive uropathy

c) **List 4 renal related that should be carried out**

- * UEGs \Rightarrow \uparrow urea + \uparrow creatinine \Rightarrow Kidney impairment
- * Urine microscopy \Rightarrow Fatty casts + Renal tubular epithelial cell casts
- * Urine Vit D levels \Rightarrow \downarrow 25 OH Vit D.
- * Bone biochemistry \Rightarrow Ca, PO₄, Mg \Rightarrow SLE \Rightarrow HTN.
- * KUB Ultrasound \Rightarrow Size \Rightarrow Small \Rightarrow or Big \Rightarrow Amyloidosis.
CMZ \Rightarrow Corticomedullary zone Ixn diff.
Vascular calcement
Caly

* Renal biopsy.

Impairment of renal \Rightarrow UEGs Bone B.chem
Urinalysis / Urine microscopy
Vit D levels
FBC

~~Diagnose~~

Structural Δ s for CKD = KUB U/S.
Underlying Cause \Rightarrow Renal biopsy.

d) **5 complications associated with condition.**

- * CKD \Rightarrow Severe anemia
- Recurrent infection
- CVS = CHF 2^o to fluid overload, MI
- Resp \Rightarrow Pulmonary edema.
- CNS = Uremic encephalopathy, Stroke.
- GIT = Ascites
Uremic Gastritis.

* **Nephritic Syndrome**

- Mixed Nephrotic + Nephritic Syndrome.
- CKD
- AKI
- AKI on CKD.

M

Q2. 65 yr old M

Acute onset Right side body weakness

Loss of strength in right side of body.

Unable to move right arm + leg

Loss of sensation " " "

Difficulty speaking

HTN

BP = 184/100

Right facial droop

Dense right hemiplegia.

✓ Right sided hemiplegia with facial drooping

a) Diagnosis? Acute ischemic stroke

b) Vascular territory

c) CVS = HTN

TIA

~~Stroke~~ Smoking

Alcohol

Hyperlipidemia

Malaria

Vasculitis.

Age.

d) Ix

✓ Echocardiograph

✓ Doppler US Carotid

✓ HbA1C

✓ CT angio

✓ Lipid Profile

✓ ECG

Findings.

Mural Thrombi

Emboli

Oclusion > 70%

DM

Aneurysm.

Hyperlipidemia

A. fibrillation → Irregularly irregular HR.

e)

3.5 to 4hrs = Thrombolytics = Alteplase. to protect the penumbra.

6hr to 12hrs = Non contrast CT \Rightarrow Consult NeuroS for Embolectomy.

> 24hrs \Rightarrow Prevent more disability = Antiplatelets - Aspirin or Clopidogrel.

Supportive \Rightarrow Statins

• LMWH = Enoxaparin

• Physiotherapy.

• Antiepileptics.

Treat underlying cause.

SBP > 220

> 120

Thrombolytic \Rightarrow 220 to 185

Non thrombolytic 220 to 180.



Labetalol.

Hemorrhagic Stroke

$$\frac{190}{118} \Rightarrow \text{DBP} + \frac{1}{3} (\text{SBP} - \text{DBP}) = 142.$$

\Rightarrow Labetalol.

SAH \Rightarrow Nimodipine.

6 hours \Rightarrow \downarrow MAP by 25%

18 hours = \downarrow MAP by 15%

Next 24 hours = 160/90

48 hours = 140/90.

Q3.

Serositis = Pleurisy
Oral Ulcers
Arthritis; Myositis
Photosensitivity
Blood Work → Pancytopenia
Renal # - Eupus Nephritis
ANA
Immuno = CrDN
Neuro - Psychosis + Depression
Malar Rash
Discoid Rash.

a) Additional information.

1) Timing of the arthralgia (onset).

↳ Swelling Redness.

Symmetry ⇒ Usually symmetrical in SLE

Polyarthritis

Pain worse at night

early morning stiffness. ⇒ "Time it takes to wake

SLE is an inflammatory joint disease

up and perform early morning routine"

2) Skin manifest ⇒ Malar rash.

= Sunexposed areas usually

Discoid rash. * Photosensitivity.

Oral ulcers

Vesicular Ulcers

Hairy pattern ⇒ Don't want to get hair done.

Scarce + Thin.

Colour changes of finger. ⇒ Digital parts.

What triggers - Dip hand

Painful. ← in cold water

3) Nephro ⇒ Edema

Urine Qty, Volume or Colour.

4) Serositis = Chest pain = Pleurisy

Pericarditis + CHF features

Ascites.

5) Resp = Pneumonia symptoms

6) CNS = Personality As ⇒ Depression.

Psychosis

7) Hematology ⇒ ↓ RBC

↓ WBC

↓ Platelets

b) Physical examination.

✓ GE ⇒ Pallor

Edema

Scanty thin hair on scalp. →

✓ Dermatology = Malar Rash

Subluxation of joints

Discoid Rash.

* Most specific - Malar Rash

• Discoid Rash

• Inflammatory arthralgia. and arthritis.

• Subluxation of Joint

• Raynaud's phenomenon.

• Nonscarring alopecia.

• Pleural rub

• Pericardial rub

} serositis

* Ecthyma's, Purpura

* Uremic frost + fetor.

* Oral Ulcer - Painless

c) Investigation

1) FBC

2) UECs.

3) ANA

4) ANA panel

5) Complement C3

6) ESR and CRP

Expected findings.

Pan cytopenia

↑ Urea + Creatinine

Positive

DsDNA and Anti Smith Antibodies

Low

↑↑

ANA = ↑ sensitivity

↓ specificity

Anti Smith Abs ↑ Specific.

DsDNA = ↑↑ Specific

1) ~~Immunomodulators~~ - DMARDs = Azathioprine = BM suppression
Methotrexate \rightarrow Pneumonitis

2) NSAIDs \Rightarrow Aspirin = Peptic Ulcer Cyclosporine \Rightarrow
Symptom relief. \rightarrow Reye's \rightarrow MMF \rightarrow Nephritis.
SLE
Salicylate poison.

3) Monoclonal Abs = Rituximab \Rightarrow Recurrent URTIs.

4) Antimalarials = Hydroxychloroquine. \Rightarrow Retinopathy
(DMARDs)

Flares \Rightarrow Cyclophosphamide = Flare \Rightarrow Hemorrhagic
Maintenance. Cystitis.
Immunomodulant \downarrow
 \downarrow
Give MESNA
good hydration.

2) Tapping \rightarrow ~~IV~~ MV Stenosis.

Heaving \rightarrow Hypertrophy \Rightarrow Eccentric \Rightarrow Cardiomegaly.

Concentric \Rightarrow No Heaving
No Cardiomegaly.

a) Diagnosis \Rightarrow Pulmonary Edema = Congestive Heart Failure = ADHF
A. fib \Rightarrow 2° to Rheumatic Heart Disease.

b) 6 factors that contributed to worsening her state.

Forget Medication

Amythmia / Anaemia

Ischemia / Infection / Injury.

Lifestyle \leftarrow Smoking
Alcohol.

Upregulation of CO - Pregnancy
Thyrotoxicosis.

Renal failure

Embolic. / Electrolyte Imbalance

Sepsis

c) 3 Investigations + structural cardiac lesions.

* ECG \Rightarrow Rapid

P mitrale

* Swan Ganz Catheter

Irregularly Irregular HR

Pressure chamber
measurement:

LAD \Rightarrow Sum of activity.

\Rightarrow atrial enlargement.

* Echo \Rightarrow Diastolic doming of leaflets

Other

Commissural shortening fusion + thickening

* CBC \rightarrow - IE WBC \times .

Hockey sticking of valve leaflets

- Anaemia \rightarrow Deformed

Mitral annular calcification.

Hb
MCV.

(area of $<$ 1cm severe (not like a)
heart??)

* VECs

* Bone chemistry

} Electrolyte
abnormalities
 \downarrow
ADHF

* Chest xray = Cardiomegaly

\rightarrow Cardi b lines

But wing appearance.

\rightarrow edema

\rightarrow boot shaped heart (evidence of Atrial enlargement)

- * Blood Culture for IE.
- * LFTs
- * Lipid Profile
- * RBS, FBS, Hb1Ac.

c) Complications.

- * IE
- * Mural Emboli \Rightarrow Stroke.
- * Pulmonary HTN. - Arterial HTN \Rightarrow 2^o to RHF
- * Pleural effusion +
- * Coronary Artery Disease 2^o to the tachycardia, and \downarrow CO.
- * Mitral valve prolapse. * Cardiac conduction
- * Ventricular aneurysm * Infections
- * Recurrent LRTIs * Dysphagia + hoarse voices = Recurrent Laryngeal Nerve.

e) 5 principles of this pt. rx
Fluid

- Symptomatic Rx \Rightarrow Position
 O₂ Support
 Analgesia
 Antibiotic Cover
 Nutrition.

- Fluid overload = P. edema = Furosemide
 Positions 40mg OD.
 O₂
 Nitrate = Nitroglycerin.
 Diuretics - Furosemide.

Definitive \Rightarrow Rhythm control = Antiarrhythmic =
 Antifailure = ACE Inh.

Rate control \Rightarrow β -blocker = Carvedilol. \Rightarrow Not in AHA/ACC = -ve inotropic
 Anticoagulation = Prevent Stroke.

Assess the need to replace MV = Check ~~out~~ the criteria.

- * If no improvement = MRAs
- * BNP Inh.

Q5

a) WHO clinical stage \Rightarrow 3

b) Basic care package

* ARV therapy

* Reproductive health services \Rightarrow Other STIs.

* Mental health

* Nutritional Services

* ~~CRP~~ Screening + Prevention of OIs.

* Screening + Mx of NCDs.

c) Ix

1) \checkmark CD4 count

2) \checkmark Serum CRAG

\checkmark Triple serology - HBV + HCV

3) UECs

Utility

CDC Staging + risk for OIs.

Identify preexisting OIs so you can treat prior to ART so you prevent IRIS.

"

~~Kidney~~ Kidney Function \Rightarrow Caution due to nephrotoxic drugs

- Anti TB

- HAMPY

d) * Commence the antituberculous therapy of R^H Z^E $\xrightarrow{2\text{ month}}$ $\xrightarrow{4\text{ months}}$ with pyridoxine for isoniazid.

* As soon as they can tolerate anti-tb (2 weeks) drug

Start on the HAART. \Rightarrow TDF + ~~ART~~ + DLT

* Double the dose of DTG \Rightarrow DIs with rifampicin as it is inducer

Stop 2 weeks after Alternate \rightarrow

2 weeks completing R^H Z^E.

* Also \Rightarrow Cotrimoxazole.

e) 3 challenges

a) Drug Interaction with anti-TB drug \Rightarrow Rifampicin.

b) ADRs with the HAART

c) IRIS

d) Psychological Stress.

e) Treatment failure.

Q6

Acute.

Severe Asthma.

a) Likely Diagnosis \Rightarrow Status Asthmaticus.

b) 5 Clinical features.

- Talk in words or Drowsy
- Sits hunched forward or Congused.
- Agitated. or Silent chest
- Tachypnea > 30 min
- Accessory muscles in use
- Pulse rate > 120 bpm.
- O₂ saturation $< 90\%$

c) 3 priority investigation.

* BGA \Rightarrow Hypoxemia. (Starts with resp alkalosis then resp acidosis.)
Hypercapnia. $> 50 \Rightarrow$ Mild or moderate.

PEF.

* Peak expiratory flow rate. \Rightarrow \downarrow PEF $\leq 50\%$. (Severe).

* Chest Xray. \Rightarrow Hyperinflation
Any obstruction.

d) 4 principles of acute management

- 1) Can Attempt bronchodilation drug = Anticholinergic - Ipratropium Bromide.
Systemic Steroids * Can use theophylline too.
MgSO₄
Sc Epinephrine injection

You can intubate + mechanical ventilation.

Airway Mx

Bronchodilation

Intubation for O₂ therapy

✓ Tx the trigger + treat the bigger. \Rightarrow Tx for allergy = Sc Epinephrine.

✓ Mx other symptoms.

✓ Try initiate the long term controller therapy.

* Correction of hypoxemia

* Reversal airway obstruct controller

* \downarrow Ice Relapse risk \Rightarrow Lignocaine.

Long acting steroids
bronchodilator

- e) - Initiate long term controller therapy + advice on compliance.
- Educate pt about triggers present in environment + preventing them
 - How to recognize an exacerbation + its red flags ^{or} modify them
 - Pt education on proper use of MDIs.
 - Close follow up of pts.

Nebulize Salbutamol 10mg
Ipratropium bromide.

Steroids = IV steroids
Oral steroids.

MgSO₄.

Amitypyline = Monitor ECG.

Aminophylline.

Q7

- a) 4 parasite = P. falciparum
P. vivax
P. ovale
P. malariae.
P. ~~ka~~ knowlesi

Step 1 As needed
3 ↓ SABA
5

1 Low dose ICS.

2 Daily LD ICS.

3 M

4

5

- b) 5 other clinical features severe + complicated malaria.

Neuropsychiatric

Respiratory → Resp Distress

* d).

✓ Hyperparathyroidism > 5

✓ Hypoglycemia < 2.2 .

✓ Anemia < 5

✓ Bicarbonate < 15 Acidosis Base Deficit > 8 .

✓ Act Bilirubin > 3 .

Scrum

d)

1) Artesunate

2) Quinidine

e) Prevention

✓ ~~ITN~~ Treated Malarial Nets

✓ Prophylaxis prior to endemic areas.

✓ ~~Q~~

Severe }
Complicated malaria

[WHO]

- ① Hypoparoxitemia > 5%
- ② Hyperparoxemia > 4°C
- ③ Anaemia - Hb < 5g/dl
- ④ Hypoglycaemia - blood sugar < 2.2 mmol/L
- ⑤ Acute renal failure
- ⑥ Jaundice
- ⑦ Resp distress syndrome - pulmonary oedema
- ⑧ Haemoglobinuria → [Differentiate from Black water fever]
- ⑨ Algid malaria (shock & Gm -ve septicemia)
- ⑩ Electrolyte disturbances
- ⑪ DIC, spontaneous bleeding, bloody diarrhoea
- ⑫ Mental confusion/coma

Diagnosis

purple - female
ant - male

Light microscopy

Gold std

stained fresh blood smear

Thick film
Thin film

presence / absence
morphology / species

microscopy

capture - RDTs

HPR-2

1/11

✓ 60 yrs old ^{female} - Prognostic yellow - jaundice
jaundice, Intense pruritus, dark urine

7 Pale stools.

0 Dx → Obstructive jaundice

0 Aetiological causes (4)

① Obstructive : Gallstones, Head of Pancreas Ca.

② Inflammatory → cholangitis

③ Iatrogenic → ERCP

④

• 6 Priority Investigations & utility

① LFTs : enzymes! Bilirubin.
- Markers of hepatic injury

② Tumor - CEA 19-2 → Diagnostic

③ Abdominal US → diagnostic

④ ERCP →

⑤ Coagulation profile → synthetic fxn

⑥

• Complications

malabsorption

① Fat malabsorption

② vit K def. → coagulopathy.

③ Hepatorenal syndrome.

④ Hepatomegaly.

✓ 40% mid 3/4x Nausea V + Poor

① Re

Q 9:

(a) • Diabetic Ketoacidosis.

(b) 6 I's

Insulin Insufficiency.

Inflammatory: ^Pancreatitis

Intoxication: Alcohol, cocaine

Infarct: MI

Iatrogenic: surgery

Infxn:

* Ischaemia

(c) Hypoglycemia

HHS.

(d) BGA - Bicarb \downarrow 15, pH

Serum Ketones -

RBS - 7.3 mmol/L

Urinalysis - Ketonuria, proteinuria

(e) ✓ Give Fluids

✓ " Insulin.

✓ correct Potassium } as one

✓ " Electrolytes }

✓ Treat the cause

✓ Treat metabolic acidosis.

✓ 45-yr woman:

✓ Easy fatigability, Reduced exercise

tolerance, Anorexia & dysphagia over
several months

Severe Pallor

Flat finger nails.

• Causes:

- ① Reduced iron intake. (Poor diet)
- ② Reduced absorption (atrophic gastritis)
→ food intolerance
- ③ Increased demand → Pregn. Rapid Growth
- ④ Blood loss → e.g. fibroids, Menorrhagia
- ⑤

• Investigations:

- ① Hb, Fbc
- ② Serum iron
- ③ Serum ferritin
- ④ TIBC
- ⑤ PBF.
- ⑥ Serum transferrin.

• Mix of Most Common ^{cause of} common

Iron → Dietary

K:

✓ Nutritional def → Most common

✓ Blood loss → Inters.

① Nutrition

② Rx Inters

③ Haematinics | Blood transfusion

④