

(Case of Hepatoblasts)

Severe Ascites
 mild (only on use)
 moderate (use; +ve shifting dialler)
 Severe (brown tense)
 Index Number (shunt)
 ↓ Liver span 3cm

8. A 35 year old African man presents with tense ascites, leg oedema and a liver span. He has no Pruritis and no respiratory signs. Serum albumin was found to be 20g/L. serum-ascites albumin gradient was $> 11g/L$.

(a) What is the clinical diagnosis?
 # High ^(graded) SAAG / Transudative ascites

hypalbuminaemia 2° to Chronic Liver disease

Other classifications
 (a) Severity - mild/moderate/severe
 (b) Response to Tx - responsive/resistant
 (c) Etiology - hepatic/malabsorptive/etc.
 (d) organ system as renal/cardiac

(b) List 4 possible causes of this condition.

↑ SAAG $> 11g/L$

- 1. Liver cirrhosis (if it's cause)
- 2. Heart failure (chronic)
- 3. Budd-Chiari syndrome
- 4. Abdominal vein thrombosis

other cause
 Liver mets (Carcinoma)
 Alcoholic hepatitis
 malignant effusion (1° Peritoneal malignancy)
 Influx (as TB Peritonitis)
 et disease (sarcoidosis in SLE/RA)
 Pancreatic dx (Pancreatitis) - Pancreatic ascites
 Renal Cerebrolytic Syndrome due to loss of Prot

(c) List 3 complications that this patient is at risk of.

- 1. Hepatic encephalopathy
- 2. Upper GI Bleeding
- 3. Spontaneous Bacterial Peritonitis
- 4. Hepatorenal Syndrome (AKI/CKD)
- 5. Bleeding tendency (↑ INR)

6. Progression of CLD to HCC

(3 Mark)

(d) List 4 tests that you would carry out on the ascitic fluid and how you would interpret

Test (4 Marks)

(a) Prots → ↑ in Exudative processes (Infect/malignant/inflammatory)
 (b) Glucose → ↓ in Influx
 (c) LDH → ↑ in malignancy/influx
 (d) ADA → ↑ in TB effusion
 (e) tumor markers (malignant)

Results Interpretation (4 Marks)

- 1. # Biochemistry
- 2. # Cell counts (↑ WBC and differentials (Infect), ↑ RBCs in malignant effusions)
- 3. # Cytology = Identify cellular dysplasia and atypia in malignant effusion

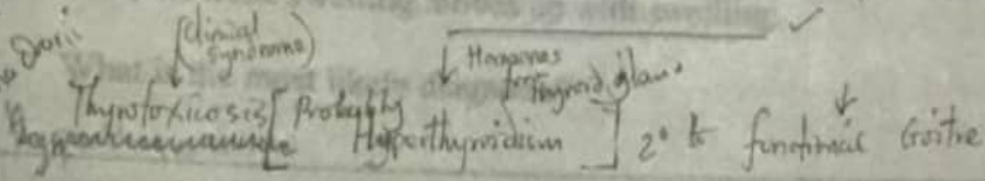
- 1. # Microbiology (Gram stain - Bacterial, Ziehl stain - TB)
- 2. Xpert (Identify agent in Influx)

(e) Outline 3 principles of management of the ascites in this patient. (3 Mark)

- 1. Diuresis (Combination of Loop (Furosemide) and Aldosterone antagonist (Spironolactone))
- 2. Salt and H₂O restriction
- 3. Therapeutic Paracentesis
- 4. Albumin infusion

A 40 year old woman presents with a 5 week history of progressive, low intelligence anterior neck swelling. She has lost 7 kg weight despite an increased appetite. On examination, the neck swelling moves up with swelling.

Exophthalmos
(Graves Disease)
1 of Shime Dorii
Thyroid gland



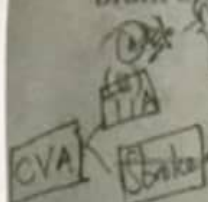
- (b) List 5 signs you would expect
1. (1) A rapid pulse; which might be irregularly irregular
 2. (2) Tremors
 3. (3) Elevated Bps (Hypertension 2^o)
 4. (4) Exophthalmos
 5. (5) Lid lag
 6. (6) Lid retraction
 7. (7) Chemosis
- eye in Graves disease
8. (8) Diffuse ↓ range of motus in eye mts (extraocular muscle) lymphoma
 9. (9) Periorbital Edema/Swelling
 10. (10) Features of T2CM (Tachycardia, Induced Conduction Pathway) (Heart failure) → Excess (Heart) → ↑ JVP (pink vein) → Apex beat (murmur) S3
 11. (11) Dermatological - Periorbital myxedema
 12. (12) (Hands) (warm/sweaty)
- (c) Outline 4 priority investigations you would carry out to establish the diagnosis and the expected finding.

- Investigations (4 Marks) Expected findings (4 Marks)
1. (1) TFTs < FT₄/T₄ ↑ (Hyperthyroidism) TSH ↓ in 2^o Hyperthyroidism ↓ in 1^o Hyperthyroidism
 2. (2) Echocardiography - Features of Tachycardia, Induced Cardiomyopathy/HF
 3. (3) ECG - Tachycardia / Afib / LVH
 4. (4) TSH receptor autoantibodies - Positive in Graves disease
 5. (5) Thyroid USG - R/o focal thyroid gland tumor
 6. (6) U&Es - R/o elevated dx^{2o} to HTN. Rise of Na⁺ - salt/H₂O retention
 7. (7) HbA1c / FBS - 2^o DM

- (d) Outline 3 definitive treatment options for the patient
1. (1) Medical therapy with antithyroid drugs (carbimazole / PTU)
 2. (2) Use of radioactive iodine
 3. (3) Surgical removal (Thyroidectomy - various forms)

- (e) List 2 expected complications of this condition (other than mortality)
- | Cardiovascular | Other |
|---|--|
| 1. (1) Tachyarrhythmias includes Afib | 1. (1) 2 ^o DM (Type III DM) |
| 2. (2) R/o mural thrombi & (ACS) (stroke) | 2. (2) Orbitopathy → corneal ulceration, Endophthalmitis, eye vision loss. |
| 3. (3) Heart failure ← Afib, Tachycardia induced cardiomyopathy | 3. (3) Mass effects of goitre → Dysphagia, upper resp obstruction |
| 4. (4) HTN (2 ^o HTN) | 4. (4) CKD / ESRD (incl 2 ^o to HTN) |
| 5. (5) Risk of haemorrhagic CVAs | 5. (5) Excess bone osteoporosis |
| 6. (6) Cardiac arrest (SAH / ICH) | 6. (6) Infertility (Amenorrhoea) |

75 year old man is brought to the casualty with acute onset of right-sided body weakness. He was eating lunch when he suddenly lost strength in the right side of his body. He was unable to move his right arm and leg and also noted a loss of sensation in the right arm and leg. He had difficulty speaking. His medical history is remarkable for long-standing hypertension. Physical exam reveals blood pressure of 184/100 mmHg. Neurological exam reveals right facial droop and dense right hemiplegia. CT scan of the brain shows evidence of haemorrhage.



What is the most likely clinical diagnosis? (2 Marks)
 Ischemic stroke (Large vessel territory - Left MCA)
 Hemorrhagic stroke (Intracerebral/SAH)
 TIA (Time based / Tissue based)
 Stroke (Large vessel territory - Left MCA)
 Hemorrhagic stroke (Intracerebral/SAH)

(b) What vascular territory is involved?
 Large vessel territory - Left MCA

- (c) List 4 risk factors for this condition.
- | Constitutive/Non-modifiable | Modifiable |
|-----------------------------|------------------------------|
| 1. Age (↑ with age) | * HTN |
| 2. Sex (male in stroke) | * DM |
| 3. Family Hx | * Obesity / Hypolipidemia |
| 4. Race (Blacks) | * AFib / Atrial Fibrillation |
| | * Smoking (cigarettes) |
| | * Diet (high salt) |
| | * Physical inactivity |

(d) List 4 priority investigations to establish the predisposing factors and the expected findings.

Investigations (4 Marks)	Expected finding (4 Marks)
1. (a) FBC (↑ WBC, ↑ Platelets - thrombosis)	1. (f) ECG → ST elevation / T wave abnormalities
2. (b) Coagulation profile (Shard PT/APTT, INR)	2. (g) Echo → IE (Intracardiac echodense masses attached to valve)
3. (c) Lipid profile (↑ LDL C / Total cholesterol)	3. (h) MRI → Evidence of atherosclerosis / stroke
4. (d) FBs / HbA1c (↑ DM)	4. (i) Carotid Doppler vs (carotid artery disease)

- (e) Outline 5 principles of management of this patient.
1. (a) Initial resuscitation: Airway, Breathing, Circulation, Disability, Supportive.
 - * Airway: Right of mandible fracture (intubate)
 - * Breathing: O₂ supplementation to ↓ risk of 2^o brain injury (SpO₂ > 94%)
 - * Circulation: Ensure adequate circulation (Hypotension could worsen neurological)
 - * BP control: (see definite) → keep BP btw (160-180) better outcomes
 - * Disability: GCS / RBS (Hypoxia, cerebral herniation stroke)
 2. (b) Supportive (Post resuscitation)
 - * Position: Head elev to about 30°
 - * Avoid hypotonia, seizures
 - * Seizure mx with phenytoin
 - * No aspirin → NBT / paracetamol

- Definitive (5 Marks)
- * Don't lower BP < 160 / avoid > 180 mmHg
 - * Definitive: ASA - High dose (325mg) then ASA - 25mg
 - 1. Antiplatelet (Dual - clopidogrel - high dose, then aspirin)
 - 2. Rx 1^o cause: CES - warfarin, IE - Antibiotic Rx
 - 3. BP control
 - 4. DM - Rx; Lipid lowering (statin)
 - 5. Role of revascularization (pharmacological or with stent)
- Pre-Complications: Pulm - pneumonia, GI - ulcers, Renal - Acute / URTI, DM - sores, DVT prophylaxis.
- * (Rehabilitation) + + +

A 47-year-old male with a long history of progressive shortness of breath, dry cough and low grade fever. He has received a course of oral amoxicillin without much improvement. He completed treatment for sputum positive pulmonary tuberculosis (PTB) months ago; and had responded well to the PTB treatment. Physical examination reveals a cachexic patient in severe respiratory disease and with florid oral thrush. His pulse rate is 111 beats/minute, temperature is 37.9°C, respiratory rate is 32 beats/minute, BP is 110/75 mmHg and O₂ saturation on pulse oximetry is less than 90% on room air. His weight 46 kg. HIV test done after counselling comes back as positive.

Tachypnea

WHO clinical stage

(a) What is the most likely diagnosis? → PCP pneumonia in newly diagnosed RVD (2 Marks)

stage I Differentials: (1) Recurrent Pulmonary Tuberculosis in a newly diagnosed RVD patient

(b) (3) What is the WHO clinical stage of this patient? WHO stage IV (1 Mark)

(c) List 3 priority investigations you would carry out and the expected findings.

Investigations (5 Marks)

Expected findings (5 Marks)

- * Full Hemogram - Anemia (Normochromic/normochromic)
- * Chest Xray - Bilateral, diffuse, perihilar fine infiltrates
- * Sputum examination - None (probable -ve)
- * CBT count (Basophile) - 2000/mm³
- * VEGs and Urinalysis - None
- * Serum CrAg - May be +ve
- * Serum LDH - Usually elevated

(d) List 2 parameters that objectively indicate severity of respiratory disease and need for adjunctive therapy in this patient.

- Oxygen Saturation (pulse oximetry)
- BGA - (PaO₂)
- Carotid Index (PaO₂/PaCO₂)
- R/R (Tachypnoea)
- A-a ratio (Alveolar-arterial gradient)

(e) Outline 5 principles of management of this patient.

- | | |
|--|---|
| 1. Oxygen Support (Tailored based on O ₂ saturations) | Definitive rx: Antibiotic Rx for PCP (moderate/severe) = Co-trimoxazole |
| 2. Antipyretics (Paracetamol/NSAIDs) | Co-trimoxazole - Dapsone |
| 3. Rehydration (Calculate total fluid requirements) | Clindamycin - Primaquine |
| 4. Nutritional Support (markedly wasted) | Atazanavir - Raltegravir |
| 5. Psychological/Evaluative and Support/care support | Oral thrush (use nystatin) |

WHO clinical stage
stage I
Differentials
70% reactivation
PCP
Pulmonary Tuberculosis
Sputum examination
Chest X-ray
Cachexia
Oral thrush

Compare CURB-65
APACHE
COPD
Pneumonia severity
Lack of breath
Health and breath

likely PCP
- Recurrent w/ PTB
- Dry cough, severe resp distress
- Co-trimoxazole with oral thrush (Common)
- Seropositive (newly diagnosed)

HIV positive
PCP
Sputum examination
Chest X-ray
Cachexia
Oral thrush

WHO stage IV
- 2000/mm³
- LDH usually elevated

** stands for PCP
Pred-BD - 5 days
Co-trimoxazole - 11 days

Atazanavir Rx of PCP - PCP Raltegravir (SMX-TMP);

cough and low grade fever. He has received a course of oral anti-tubercular therapy 6 months ago; and had responded well to the PTB treatment. Physical examination reveals a cachectic patient in severe respiratory distress and with fluid overload. HR 111 (111 beats/minute) temperature is 37.4°C, respiratory rate is 22 breaths/minute, BP is 110/75 mmHg and O₂ saturation on pulse oximetry is less than 90% on room air. He weighs 46 kg. HIV test done after counselling comes back as positive.

Interrelated topics

(a) What is the most likely diagnosis? → PTB Pneumonia in newly diagnosed RVD

DDX = (Recurrent) Pulmonary Tuberculosis in a newly diagnosed RVD patient
 Differentiators:
 - ? Reactivation / re-infection
 - Probability endogenous re-activation due to ↓ Immunity

(b) What is the WHO clinical stage of this patient?

WHO stage IV

- WHO stage IV findings:
- Bilateral infiltrates
 - Involvement of both apices
 - Cavities, large necrotic areas
 - Co-infection with opportunistic (Common)
 - Severe (Newly diagnosed)

(c) List 3 priority investigations you would carry out and the expected findings.

Investigations (5 Marks)

Expected findings (5 Marks)

- * Full Hemogram - Lancrey high; anemia
 * Chest Xray - Bilateral, diffuse, Perihilar, fine infiltrates
- * Sputum examination - specimen for 3d - R/o PTB (probability -ve)
specimen for 3d - +ve for AFB 60%
- * CD4 counts (Baseline) - 220 counts/mm³
may be decreased [HIV associated opportunistic infection]
- * U/E and Urinalysis - may be H₂O
Usually elevated
- * Serum CrAg - may be H₂O
Usually elevated

(d) List 2 parameters that objectively indicate severity of respiratory disease and for adjunctive therapy in this patient.

Justified Park HART