Management

First-line treatment

- **Psychotherapy**: Enhanced **CBT-E** (cognitive behavioral therapy focused on eating disorders) — gold standard (20 sessions over ~4–5 months).
  (Alternative: guided self-help CBT if mild, or family-based if strong family involvement.)

Pharmacotherapy

- **Fluoxetine** 60 mg/day start if CBT alone insufficient after ~6 weeks, or combine early.
  Reduces binge/purge frequency even without depression.

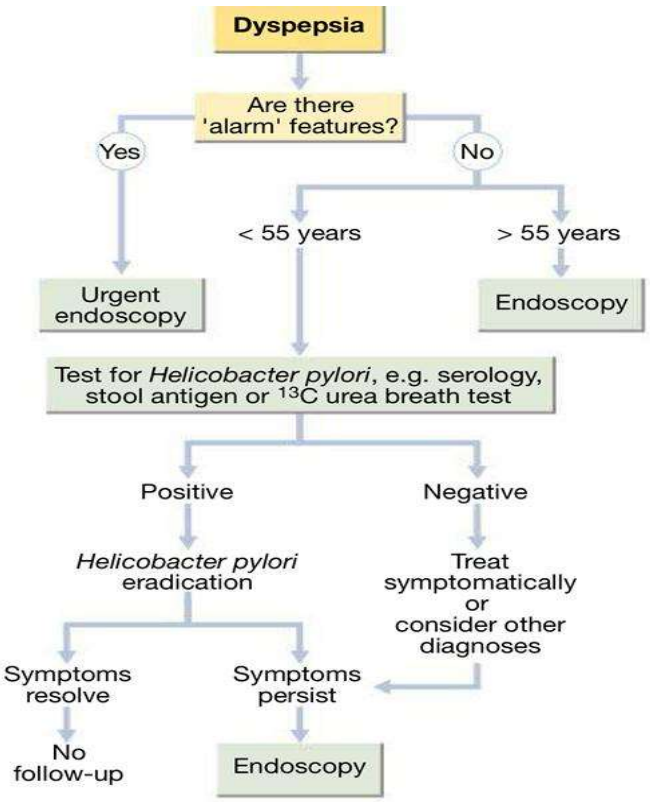
Medical/nutritional management

- Correct electrolytes (K^+, Na^+, Cl^-, Mg^{2+}) urgently if abnormal.
- Normalize eating pattern (regular meals/snacks to break binge-purge cycle).
- Monitor weight, vital signs, dental health.

Q.3 Mention the alarming signs of dyspepsia. How would you investigate a 60-year-old man presenting with dyspepsia?

Alarm features in dyspepsia
• **Unintentional weight loss** • **Anaemia** • **Persistent vomiting** • **Haematemesis and/or melaena** • **Dysphagia** • **Palpable abdominal mass**

Investigation



- BP / pulse deficit between arms (>20 mmHg difference) - New aortic regurgitation murmur - Risk: uncontrolled HTN, Marfan, cocaine	
- Sudden pleuritic or central pain - Severe dyspnea, tachypnea, sense of doom - Syncope / presyncope - Risk: immobilization, surgery, cancer, prior VTE, leg swelling (DVT signs) - Tachycardia + accentuated P2	**Acute massive pulmonary embolism**
- Sudden severe substernal / epigastric pain after forceful vomiting / retching - Sharp pain, often post-heavy meal/alcohol - Radiates to back	**Oesophageal rupture (Boerhaave syndrome)**
- Burning / indigestion-like pain - Post-prandial / after spicy food / lying down - History of GERD / regurgitation - Partial relief with antacids - No diaphoresis / hemodynamic instability	**Severe gastro-oesophageal reflux**

Investigations

Investigation	Findings Supporting Diagnosis
Serial 12-lead ECG (every 15–30 min or with pain)	New ST depression/T-wave inversion (ACS); may remain normal in early NSTEMI or dissection/PE
High-sensitivity cardiac troponin (at 0 & 3 h)	Elevated → NSTEMI; normal → unstable angina or non-cardiac (repeat if high suspicion)
D-dimer (quantitative)	Markedly elevated → PE or aortic dissection (high negative predictive value if low pretest probability)
Complete blood count, glucose, lipid profile	Anaemia, leukocytosis, hyperglycaemia, dyslipidaemia (risk stratification)
Arterial blood gas	Hypoxaemia/hypocapnia (PE); metabolic acidosis (shock/dissection)
Bedside echocardiography (urgent)	Regional wall-motion abnormality (ACS); intimal flap, aortic regurgitation, pericardial effusion (dissection); RV dilatio strain(PE); pericardial effusion/rub (pericarditis)
CT pulmonary angiogram (CTPA) or CT aortogram	Filling defects in pulmonary arteries (PE); intimal flap/false lumen in aorta (dissection)
Troponin + CK-MB (if troponin unavailable)	Rise and fall pattern confirms myocardial injury

Past history of CABG (high risk of recurrent ischemia)	
Progressive dyspnea, chest heaviness Dull percussion note, reduced breath sounds History of cancer (colon) → possible metastasis	**Malignant Pleural Effusion**
Chest pain (sharp or pressure-like) May be associated with palpitations, fatigue Low-grade fever or pericardial rub possible	**Chemo-induced Myocarditis/Pericarditis**
Fever, cough, sputum production Pleuritic chest pain, dyspnea History of immunosuppression (chemotherapy)	**Pneumonia / ARDS**

Investigations

Step	Investigation	Possible Findings
First-line	**ECG**	ST elevation/depression, T inversion, arrhythmia (ACS)
	Cardiac enzymes (Troponin, CK-MB)	Elevated in ACS
	Chest X-ray	Pleural effusion, pneumonia, ARDS infiltrates
	Pulse oximetry / ABG	Hypoxemia, low PaO_2 (PE/ARDS)
	CBC	Leukocytosis (infection) or cytopenia (chemo effect)
Second-line	**CT Pulmonary Angiography (CTPA)**	Filling defect in pulmonary arteries (PE)
	Echocardiography	LV dysfunction (ACS), pericardial effusion (pericarditis), RV strain (PE)
	Pleural fluid study (cytology, biochemistry)	Malignant cells (malignant effusion)
	D-dimer	Elevated (PE)
	HRCT chest	Diffuse infiltrates (ARDS), pneumonia not clear on CXR

Q.10. A 30-year-old man had his CT abdomen done for evaluation of abdominal pain which shows incidental SOL on right adrenal gland.
a) Mention checklist of clinical findings relevant to this finding.
b) What further investigations will exclude serious pathologies of the adrenal gland? (Jan 24)

3. **Specific Management:**

A. Insulin Therapy:

- Start IV regular insulin infusion (e.g., 0.1 units/kg/hour)
- Do not start insulin if $K^+ < 3.3$ mmol/L – first correct potassium.

B. Potassium Replacement

- If **$K^+ < 3.3–5.0$ mmol/L**, give **IV potassium chloride (KCl)** with fluids.
- Careful monitoring is essential because **insulin therapy drives potassium into cells**, which can cause **hypokalemia**.

C. Monitor and Adjust

- **Blood glucose:** Check every **1–2 hours**
- **Electrolytes & ABG:** Check every **2–4 hours**
- When **glucose < 14 mmol/L (~250 mg/dL)**:
  - ✓ Add **5% dextrose** to IV fluids
  - ✓ Continue insulin to clear ketones while preventing hypoglycemia

D. Treat Underlying Cause

- Common triggers:
  - ✓ Infection
  - ✓ Missed insulin doses
  - ✓ Myocardial infarction (MI)

4. Follow-Up and Long-Term Management

- Transition to **subcutaneous insulin** once:
  - ✓ Patient is stable
  - ✓ Eating
  - ✓ Acidosis has resolved
- Educate about:
  - ✓ Diabetes management
  - ✓ Sick-day rules
  - ✓ Insulin adherence
- Refer to endocrinology/diabetes educator
- Regular follow-up for:
  - ✓ Glycemic control
  - ✓ Kidney function
  - ✓ Complication screening

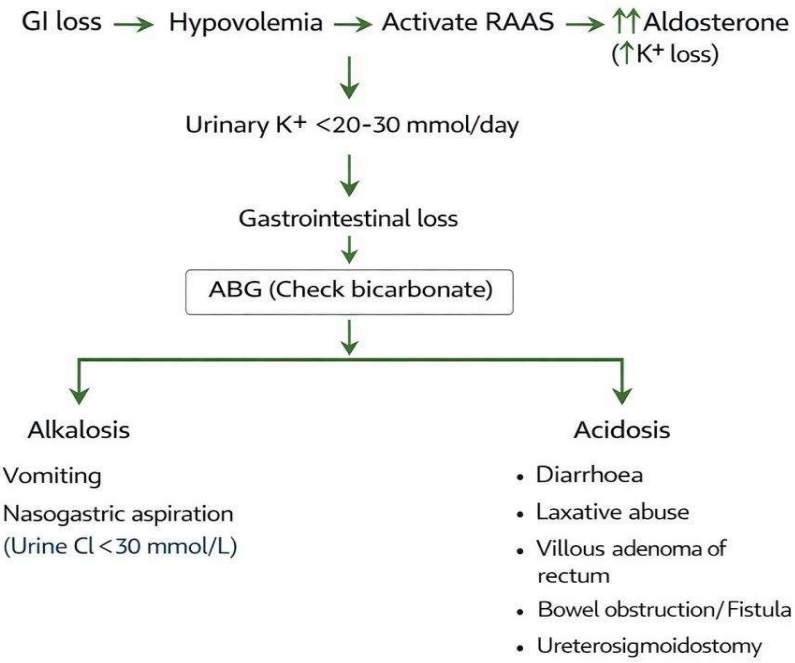
Q.4. A 23-year-old man was declared as medically unfit for positive VDRL report during checkup for overseas employment. How would you evaluate and investigate him?

Possibilities:
Syphilis infection
False positive VDRL

Causes of false positive VDRL –

Infections –

- Infectious mononucleosis
- Infective endocarditis
- Malaria
- Measles
- Chicken pox
- Hepatitis-C virus infection
- Leprosy



Clinical features:

1. Generally asymptomatic
2. Muscular weakness
3. Tiredness
4. Paralytic ileus
5. Polyuria
6. Polydipsia
7. Ventricular ectopic beat
8. Arrhythmia

Investigation

Name of investigation	Aim / Interpretation
Serum electrolytes	K^+ < 3.5 mmol/L on several occasions
Arterial blood gas analysis (bicarbonate)	Acidosis / alkalosis / variable
Urinary K^+ (24 h)	>20–30 mmol/day → renal cause <20–30 mmol/day → GI cause
Serum calcium	Normal or abnormal
Serum magnesium	Low or normal
Plasma renin	Low in primary hyperaldosteronism High in secondary hyperaldosteronism
Urinary chloride	<30 mmol/L → vomiting >40 mmol/L → tubular disorder

From this scenario most probable diagnosis is **chronic meningoencephalitis** (e.g., **tubercular meningitis, neurocysticercosis**, etc.).

a) Important Clinical Information to Elicit
Symptom Timeline and Nature:

- Duration and progression of **fever, headache, vomiting**
- Type and duration of **seizure** (generalized/focal, single/multiple)
- Any **altered sensorium, neck stiffness, or photophobia**

Neurological Symptoms:

- **Focal deficits** (e.g., weakness, cranial nerve palsy)
- Changes in **behavior, vision, or coordination**

Past Medical and Exposure History:

- History of **tuberculosis (TB)** or contact with TB patients
- Recent travel, **unpasteurized milk intake, immunosuppression (HIV)**
- Any **head trauma or neurosurgery**

Systemic Review:

- **Weight loss, night sweats, appetite changes**
- **Skin or joint symptoms** (connective tissue disease)

b) Investigations and Expected Findings:

Investigation	Purpose / Expected Finding
Complete Blood Count (CBC)	Mild leukocytosis, anemia (TB)
ESR/CRP	Elevated (chronic inflammation)
Chest X-ray	Look for **pulmonary TB**
HIV ELISA	Check for immunosuppression
CT Brain (initial)	Rule out mass effect before LP
MRI Brain with Contrast	Basal meningeal enhancement, hydrocephalus, infarcts (TBM); cystic lesions
Lumbar Puncture + CSF Analysis	
Opening Pressure	Elevated
Appearance	Clear or slightly turbid
Cell Count	Lymphocytic predominance
Protein	Elevated
Glucose	Low (<40 mg/dL)
AFB stain	To confirm tuberculous meningitis
GeneXpert MTB/Rif	To confirm tuberculous meningitis
Fundus Examination	Rule out **papilledema** before LP

6. A 58-year-old obese woman presented intermittent central chest pain for 3 months. Her cardiac evaluation revealed no abnormalities. How would you evaluate her?

From this scenario this is a case of non-cardiac chest pain. Causes are—

Gastrointestinal

- Gastroesophageal reflux disease (GERD)
- Esophageal spasm
- Peptic ulcer disease

Musculoskeletal

1. Costochondritis
2. Muscle strain
3. Rib fracture

Pulmonary

- Pulmonary embolism
- Pleuritis
- Pneumothorax

Psychiatric

a) History

- **Character of pain –** burning, stabbing, dull, positional?
- **Relation to food intake –** suggests GERD or esophageal spasm
- **Exertional correlation –** musculoskeletal vs GI
- **Respiratory symptoms –** cough, dyspnea, hemoptysis (consider pulmonary cause)
- **Psychosocial factors –** anxiety, panic disorder
- **Associated symptoms –** dysphagia, regurgitation, weight loss

b) Physical examination

- BMI, abdominal exam (epigastric tenderness)
- Chest wall palpation (costochondritis)
- Respiratory exam (to rule out pulmonary causes)

Investigations

- **Upper GI endoscopy (EGD) –** to evaluate reflux esophagitis, ulcers, or malignancy
- **Esophageal manometry –** if motility disorder suspected
- **24-hour pH monitoring –** for acid reflux assessment
- **Chest X-ray –** to rule out lung pathology
- **Abdominal ultrasound –** to evaluate gallbladder and liver
- **Psychiatric evaluation –** if no organic cause is found

ECG (Electrocardiogram)

Can show signs of pulmonary embolism (e.g., S1Q3T3 pattern, right heart strain).
Helps rule out cardiac ischemia and arrhythmias too.

D-dimer

Elevated in pulmonary embolism (PE); if low and clinical suspicion is low, PE is unlikely.

CT Pulmonary Angiography (CTPA)

Gold standard to diagnose or rule out PE.

Appearance: Cloudy or turbid

Microscopy:
- **Negatively birefringent needle-shaped monosodium urate crystals** (diagnostic of gout)
- **WBCs elevated** (predominantly neutrophils)

Gram stain and culture:
- To rule out septic arthritis (should be **negative in gout**)

2. Serum Uric Acid
- May be **elevated (>6.8 mg/dL)**
- Can be **normal during acute attacks**

3. Complete Blood Count (CBC)
- **Leukocytosis** may be present due to inflammation

4. ESR / CRP
- **Elevated**, indicating systemic inflammation

5. Renal Function Tests (especially due to CKD)
- **Elevated serum creatinine and urea**
- Monitor for **renal function deterioration**

6. Imaging (if needed)
X-ray of the joint
- May show **soft tissue swelling initially**
- **Punched-out erosions with overhanging edges** in chronic gout

(b) Treatment Plan
General Measures
- **Rest the affected joint**
- **Ice packs** to reduce pain and swelling
- **Avoid alcohol and purine-rich foods**

Pharmacologic Treatment
Acute Attack Management
- **Colchicine:** 0.5 mg orally **2–3 times daily** (adjust dose for CKD)
- **NSAIDs:** Usually **avoided in CKD (stage III or worse)**
- **Steroids:**
  - ✓ **Oral prednisone** (e.g., **20–30 mg/day**) tapered over **7–10 days**
  - ✓ **Intra-articular steroid injection** if only one joint is involved and infection is excluded

Chronic Management (after acute attack resolves)
Urate-lowering therapy (ULT):
- **Allopurinol:** start low (e.g., **50–100 mg/day**); adjust for **CKD**
- **Febuxostat:** alternative, but **use caution in cardiovascular disease**
- **Monitor uric acid levels**, target **< 6 mg/dL**

Lifestyle Modifications
- **Weight reduction**
- **Limit alcohol**, especially **beer and spirits**
- Avoid **high-purine foods** (e.g., **red meat, seafood**)

- Tingling/numbness (especially in fingers and toes)
- Triggered by stress or anxiety
- Normal physical examination

Investigations
First-Line Investigations
Arterial Blood Gas (ABG)
- **Pulmonary Embolism:** Hypoxia, respiratory alkalosis
- **Asthma:** Hypoxia, respiratory alkalosis (early), respiratory acidosis (late/severe)
- **Metabolic Acidosis:** Low pH, low HCO_3^-, compensatory low CO_2
- **Psychogenic Hyperventilation:** Respiratory alkalosis (low CO_2, normal O_2)

Chest X-ray
- Usually **normal in asthma and psychogenic hyperventilation**
- May show **wedge-shaped opacity or oligemia in pulmonary embolism**
- Used to rule out other causes (**pneumothorax, pneumonia**)

Electrocardiogram (ECG)
- **Pulmonary Embolism:** Sinus tachycardia, **S1Q3T3 pattern** (rare)
- **Asthma and psychogenic hyperventilation:** Usually normal
- Used to rule out **cardiac causes of dyspnea**

D-dimer
- **Elevated in pulmonary embolism** but non-specific
- Useful for **ruling out PE in low-risk patients**

Peak Expiratory Flow (PEF)
- **Reduced in acute severe asthma**
- Helpful to **assess severity and monitor response to treatment**

Electrolyte Panel
- **Metabolic acidosis:** Low bicarbonate, possible **hyperkalemia** (especially in DKA)

Second-Line Investigations
CT Pulmonary Angiography (CTPA):
- **Gold standard for pulmonary embolism (PE)**
- Shows **filling defects in pulmonary arteries**

Ventilation–Perfusion (V/Q) Scan:
- Used if **CTPA is contraindicated**
- **Ventilation–perfusion mismatch** suggests PE

Lower Limb Doppler Ultrasound:
- Detects **deep vein thrombosis (DVT)** as a source of emboli in suspected PE

Spirometry:
- **Obstructive pattern in asthma**
- **Low FEV_1, reduced FEV_1/FVC ratio**
- **Reversible with bronchodilator**

4. Tibolone
- Partial agonist of estrogen, progesterone and androgen

Dose:
- 1.25 mg/day orally

Raloxifene
- Selective estrogen receptor modulator (SERM)
- **Dose:** 60 mg orally daily

Teriparatide
- Parathyroid hormone–related protein analog
- **Dose:** 20 µg subcutaneously daily

Abaloparatide
- Parathyroid hormone–related protein analog
- **Dose:** 80 µg subcutaneously daily

(C) Surgical Management
(Indicated if osteoporotic fractures occur)
- Internal fixation
- Hemiarthroplasty
- Total hip replacement
- Vertebroplasty

8. How would you evaluate and investigate a 56-year-old man presented with gynaecomastia? (Jan-23)

9. Enumerate the medical consequences of 'Eating Disorder'.

Medical consequences of eating disorders

Cardiac
- ECG abnormalities: T-wave inversion, ST depression and prolonged QTc interval
- Arrhythmias, including profound sinus bradycardia and ventricular tachycardia

Haematological
- Anaemia, thrombocytopenia and leucopenia

Endocrine
- Pubertal delay or arrest
- Growth retardation and short stature
- Amenorrhoea
- Sick euthyroid state

Metabolic
- Uraemia
- Renal calculi
- Osteoporosis

Gastrointestinal
- Constipation
- Abnormal liver function tests

(Ref: Davidson 24th P-1258, Box: 31.32)

10. A 65-year-old man presented with forgetfulness for the last 12 months. (Jan-24,25, Jul-22,24)

Supportive Care
Encourage early mobilization
Use compression stockings to prevent post-thrombotic syndrome

Thrombolysis or Thrombectomy
Consider in severe cases with extensive clot burden or limb-threatening ischemia
IVC Filter
Use only if anticoagulation is contraindicated or recurrent embolism occurs despite treatment.

10. A 30-year-old man presented with chronic vomiting, postural dizziness and weight loss for 6 (six) months.How would you evaluate him?
From this scenario most possible diagnosis is **chronic adrenal insufficiency (Addison's disease)**.
Possible causes are –

1. **Tuberculosis**
2. **HIV**
3. **Lymphoma**
4. **Histoplasmosis**
5. **Metastatic disease**

Evaluation:

- History of TB or contact - Low-grade fever, night sweats - Weight loss, chronic cough - Adrenal calcification on imaging	**Tuberculosis**
- Opportunistic infections - Oral candidiasis, chronic diarrhoea - Skin lesions (Kaposi's, etc.) - Generalized lymphadenopathy	**HIV/AIDS**
- B symptoms: fever, night sweats, weight loss - Lymphadenopathy, hepatosplenomegaly - Possible adrenal infiltration	**Lymphoma**
- Exposure to bat or bird droppings (endemic areas) - Fever, cough, hepatosplenomegaly - Disseminated disease in immunocompromised	**Histoplasmosis**
- Known primary cancer (lung, breast, GI, melanoma) - Systemic signs of malignancy - Bilateral adrenal enlargement on imaging	**Metastasis**

First-Line Investigations:

Test / Investigation	Findings
8 AM serum cortisol	low
Plasma ACTH	high
Electrolytes	hyponatraemia, hyperkalaemia
Blood glucose	hypoglycaemia
CBC	anaemia, eosinophilia, lymphocytosis
Orthostatic BP measurement	(postural drop)
CXR	look for TB, lymphoma, metastasis
HIV ELISA / Rapid test	(to rule out)
ESR / CRP	elevated in infection or malignancy

Investigations

- **FBC** → eosinophilia (parasites, drugs)
- **ESR / plasma viscosity** → raised in vasculitis
- **Urea & electrolytes, LFT, TFT, iron studies** → screen for systemic disease
- **Total IgE + specific IgE** → relevant in angioedema + suspected allergens (shellfish, peanut, house dust mite)
- **Autoantibodies** (esp. ANA) → positive in SLE, urticarial vasculitis; also linked to RA, autoimmune thyroid/hepatitis
- **Complement (C3/C4) & C1 levels** → if low → check **C1 esterase inhibitor** function (hereditary/acquired angioedema)
- **Infection screen** → hepatitis, HIV (if indicated)
- **Skin biopsy** → only if urticarial vasculitis suspected
- **Challenge/provocation tests** → confirm physical urticarias (dermographism, cold, heat, pressure, etc.)

6 A 20-year-old woman presented with irregular menstruation and hirsutism. How would you evaluate and treat her? (Jul-23)

7. Write in short about medically unexplained symptoms. (Jan-22)

8. Make a checklist of the clinical information for a patient with adrenal incidentaloma

Differential Diagnoses of Adrenal Incidentaloma

6. Non-functioning adrenal adenoma
7. Cortisol-producing adenoma (subclinical or overt Cushing's syndrome)
8. Pheochromocytoma
9. Aldosterone-producing adenoma (Conn's syndrome)
10. Adrenal carcinoma
11. Adrenal metastasis

Evaluation:

Non-functioning adenoma	Asymptomatic, found incidentally, no hormonal excess
Cortisol-producing adenoma	Cushingoid features (moon face, central obesity, striae), hypertension, diabetes, osteoporosis; may be subclinical
Pheochromocytoma	Paroxysmal hypertension, palpitations, headache, sweating, anxiety
Conn's syndrome	Hypertension, hypokalaemia, muscle weakness, metabolic alkalosis
Adrenal carcinoma	Large mass (>4–6 cm), virilisation/feminisation, weight loss, pain
Metastasis	History of malignancy (lung, breast, melanoma), bilateral lesions possible

Investigations

First-Line Investigations

(Hormonal work-up for all adrenal incidentalomas ≥1 cm)

Test	Purpose
1 mg overnight dexamethasone suppression test	Screen for subclinical Cushing's
24-hour urine or plasma metanephrines	Screen for pheochromocytoma
Plasma aldosterone-renin ratio (ARR)	If hypertensive or hypokalaemic, screen for Conn's syndrome

6) Arrange emergency endoscopy

Confirm diagnosis
Therapeutic control of active bleeding by endoscopic treatment
↓
Local dilute adrenaline (1:10,000) administration into bleeding point
Thermal coagulation
LASER therapy
Endoscopic clip

Further assessment
↓

Bleeding not controlled ↓ **Surgery —** To ligate bleeding vessels Pyloroplasty Vagotomy Wedge antral resection Control of re-bleeding by — PPI H. pylori eradication therapy Stop NSAID	Control of bleeding by • PPI • H. pylori eradication therapy • Stop NSAID

7) Follow-Up

10 A 30-year-old woman presented with recurrent episodes of palpitation associated with dizziness. How would you evaluate her clinically?

Possibilities

Cardiac:
- Any arrhythmia
- Atrial fibrillation
- Supraventricular tachycardia
- Ventricular tachycardia
- Extrasystole
- Valvular heart disease
- Cardiomyopathy

Non-cardiac:
- Generalized anxiety disorder
- Primary pulmonary hypertension (PHTN)
- Anaemia due to any cause
- Generalized anxiety disorder
- Thyrotoxicosis
- Phaeochromocytoma
- Drug-induced
- Salbutamol
- Theophylline

Q2. A 70-year-old man presented with forgetfulness for last 8 months. Write a clinical checklist to evaluate him and enumerate the plan of investigations for him. ***(Jan 25,24July-22, 24)***

Q3. A 30-year-old woman presented with gum bleeding and purpuric spots over her shins. Mention the list of clinical information hinting the diagnosis.

Differential Diagnoses

1. **Acute Leukemia**
2. **Aplastic Anemia**
3. **Vitamin C Deficiency (scurvy)**
4. **Disseminated Intravascular Coagulation (DIC)**
5. **Immune Thrombocytopenic Purpura (ITP)**
6. **Thrombotic Thrombocytopenic Purpura (TTP)**

Clinical information

Diagnosis	Important Clinical Clues
Acute Leukemia	Fatigue, pallor, frequent infections, gum hypertrophy, lymphadenopathy, hepatosplenomegaly, bone pain, diffuse bleeding
Aplastic Anemia	Pancytopenia symptoms (fatigue, infections, bleeding), history of drug or toxin exposure, no organomegaly
Vitamin C Deficiency	Gingival bleeding, perifollicular petechiae, ecchymoses, poor wound healing, history of poor nutrition or poverty
DIC	Acute bleeding (mucosa, catheter/wound sites), ecchymoses, systemic illness (e.g., sepsis, trauma, obstetric emergency), multiorgan dysfunction
Immune Thrombocytopenic Purpura (ITP)	Isolated mucocutaneous bleeding (e.g., petechiae, gum bleeding, menorrhagia), often in young women, no systemic symptoms or organomegaly
Thrombotic Thrombocytopenic Purpura (TTP)	Pentad: thrombocytopenia, microangiopathic hemolytic anemia, fever, neurologic signs (e.g., confusion, seizures), renal dysfunction; may present acutely and severely

Q4. Write in brief about antibiotic stewardship.

Antimicrobial stewardship:

The system and process applied to a population to optimise the use of antimicrobial agent

Population referred to—

- Nation
- Region
- Hospital
- Unit of health care organization
  - ✓ Ward
  - ✓ Clinic

Aim:

- To improve patient outcome
- Reduce antimicrobial resistance

	Behçet's: often severe anterior/posterior/panuveitis ± hypopyon/retinal vasculitis	
Pathergy test	Positive in Behçet's; negative in UC/Crohn's	Simple bedside test; supports Behçet's diagnosis (ISG criteria)
HLA-B51 genotyping	Positive association in Behçet's (especially ocular/GI forms); negative/low in UC/Crohn's	Genetic marker; higher prevalence in Behçet's (helps rule in/out)
ANCA (p-ANCA/c-ANCA)	p-ANCA + in UC; usually negative in Crohn's & Behçet's; + c-ANCA/MPO in vasculitis	Helps differentiate UC (p-ANCA common) from Crohn's/Behçet's; rules out ANCA-vasculitis
ASCA (anti-Saccharomyces cerevisiae Ab)	Positive in Crohn's (including colitis); negative/low in UC & Behçet's	Serologic marker; supports Crohn's over UC (though not diagnostic alone)

Q3. Enumerate the causes of sterile pyuria. Write a list of clinical information to reach the cause of sterile pyuria. (Jan-25, Jan-24)

Causes of sterile pyuria:

- Partially treated UTI
- UTI caused by fastidious organism (e.g., chlamydia)
- Renal tuberculosis
- Acute interstitial nephritis (AIN)
- Papillary necrosis / Analgesic nephropathy
- Non-bacterial prostatitis

Evaluation:

H/o multiple antibiotics use with Inadequate dose and duration Dysuria Lower abdominal pain Fever	**Partially treated UTI:**
Multiple antibiotic treatment with no response	**Fastidious organism:**
Low grade fever Weight loss Anorexia Painless hematuria	**Renal TB:**
H/o drug hypersensitivity reaction Fever Rash Eosinophilia	**AIN (Acute Interstitial Nephritis):**
H/o diabetes mellitus Sickle cell disease Long term use of NSAID	**Papillary necrosis:**

Fungal abscess:
- IV antifungals (e.g., **amphotericin B**), switch to oral **fluconazole** once stable.

Supportive:
Glycemic control:
- **Insulin** to optimize blood sugar.

Percutaneous drainage:
- If abscesses are **large, not resolving, or at risk of rupture**.

Q2. A 58-year-old hypertensive gentleman presented with severe respiratory distress and palpitation for 1 day. Write a clinical checklist with expected findings hinting the underlying cause of this presentation. ***(Jul-23)***

Possible Causes

• Acute left ventricular failure (acute pulmonary edema) • Acute coronary syndrome (ACS) • Arrhythmia (e.g., atrial fibrillation with rapid ventricular rate) • Hypertensive emergency • Pulmonary embolism

Clinical Checklist with Expected Findings

• Severe dyspnea, orthopnea, paroxysmal nocturnal dyspnea • Pink frothy sputum • Bilateral basal crepitations • S3 gallop	**Acute Left Ventricular Failure / Pulmonary Edema**
• Chest pain (pressure-like, radiating to arm/jaw) • Sweating, nausea	**Acute Coronary Syndrome**
• Palpitations, dizziness • Irregularly irregular pulse	**Arrhythmia (e.g., Atrial Fibrillation)**
• Very high BP (>180/120 mmHg) • Headache, dyspnea • Fundoscopy: hypertensive retinopathy • Signs of pulmonary edema	**Hypertensive Emergency**
• Sudden dyspnea, pleuritic chest pain • Tachycardia, hypoxia	**Pulmonary Embolism**

3. Mention the importance of different types of pulse in clinical medicine.

Types of Pulse	Clinical Importance
(A) Rhythm	
• **Irregularly irregular**	• Atrial fibrillation • Multiple ectopics • Atrial flutter with variable block
• **Regularly irregular**	• Sinus arrhythmia • Second degree AV block • Occasional ectopics
• **Pulse deficit**	• Atrial fibrillation
• **Pulsus bigeminus**	• Premature ectopic beats following every sinus beat

Investigations

Name of investigation	Aim / Interpretation
1) Complete blood count	High ESR Neutrophilic leukocytosis
2) Detection of DNA by PCR	HSV
3) Dark field microscopy of exudates from ulcer	Shooting star appearance of *Treponema pallidum*
4) VDRL **TPHA**	For syphilis
5) Serological test for L-2 serotypes in chlamydia	For LGV
6) Microscopy of swab from ulcer or pus from bubo	For chlamydia and *H. ducreyi*
7) Microscopy of cellular material for intracellular bipolar staining for Donovan bodies	In Granuloma inguinale

5 A 60-year-old woman presented with acute watery diarrhea with altered mental state. How would you assess her clinically and treat her?

Most likely diagnosis: Severe acute diarrheal illness with dehydration and possible electrolyte imbalance or sepsis, potentially due to cholera or enterotoxigenic *E. coli*, complicated by hyponatremia or uremia causing altered mental status.

Clinical Assessment:

1. History:

- Onset, frequency, volume, and character of diarrhea (watery, bloody, etc.)
- Associated symptoms: vomiting, fever, abdominal pain
- Recent travel, food intake, or known outbreaks
- Medication history (diuretics, laxatives)
- Comorbidities (diabetes, renal/liver disease)

2. Physical Examination:

- **Hydration status:** Skin turgor, mucous membranes, capillary refill, pulse, blood pressure, sunken eyes
- **Neurological status:** Level of consciousness, orientation, signs of confusion or encephalopathy
- **Vital signs:** Fever, tachycardia, hypotension
- **Abdominal exam:** Tenderness, distension, bowel sounds

Investigations:

- **CBC:** Look for signs of infection or hemoconcentration
- **Serum electrolytes, urea, creatinine:** To detect dehydration, hyponatremia, or acute kidney injury
- **Blood glucose:** Rule out hypoglycemia
- **Serum osmolality**
- **Stool examination & culture:** Identify causative organism
- **Blood cultures:** If sepsis is suspected

Management:

1. Immediate Stabilization:

Paper – 2

Group-A

1. A 23-year-old man presented with fever, weight loss, and multiple joint pain for 8 months. Write a clinical checklist to evaluate him to reach the underlying diagnosis.
2. A 50-year-old businessman presented with a blood report showing serum uric acid level 9.5 mg/dl. How would you investigate and manage him?
3. A 55-year-old man, a known case of COPD, presented with left-sided chest pain with deterioration of his respiratory distress for the last few hours. Write a clinical checklist to find out the underlying cause and how would you investigate him?
4. How would you evaluate a 55-year-old man with gynecomastia?
5. Write in brief about metabolic bone disease.
6. Write the cardiovascular complications of Marfan's syndrome. How would you plan to manage those complications?
7. Write the features of Zinc deficiency.
8. A 29-year-old pregnant woman came with a blood report showing platelet count 78000/mm^3 at her second trimester. How would you evaluate and manage her?
9. Write in brief about allergic bronchopulmonary aspergillosis.
10. Write the pros and cons of different renal replacement therapy.

Group-B

1. Enumerate the importance of nail examination in clinical practice.
2. A 55-year-man patient presented with generalized body ache. His investigations showed Hb 7.6 gm/dl, ESR 125 mm in 1st hour. Make a list of investigations for him with findings hinting to the underlying diagnosis.
3. Write the differences between psychosis and neurosis.
4. How would you evaluate and manage pain and tingling sensation in fingers in a patient with hypothyroidism?
5. A 28-year-old obese man presented with heartburn especially after meals. How would you advise him to minimize his symptoms?
6. A 26-year-old man presented with intensely itchy skin rash, especially over elbows and dorsum of his hands for 5 months. How would you investigate and treat him?
7. Mention the criteria of withdrawal from mechanical ventilation for a patient admitted in ICU.
8. A 75-year-old woman has presented with urinary incontinence. How would you evaluate and manage her?
9. How would you differentiate acute leukaemia from leukaemoid reaction?
10. A 60-year-old man presented with forgetfulness for last 8 months. Plan for investigations with expected findings to reach the underlying cause.

3 Write the differences between psychosis and neurosis.

Difference between psychosis and neurosis

Points	Psychosis	Neurosis
1. Definition	Psychosis is defined as major personality disorder which disrupts one's emotional & mental aspects of life.	Neurosis refers to a constant struggle between an individual's personality & his patterns of behaviour in a stressful condition, often associated with physical & mental disturbances.
2. Causes	Three main causes – **functional, organic & psychoactive drug** (Cocaine)	Occurs due to **social reason, personal experience & emotional disturbance**. Also **hereditary & chemical factor**.
3. Reality testing (Judgement)	Absent	Present
4. Personality	Affected / Change	Not affected
5. Insight	Lost / Absent	Present
6. Delusion	Present	Absent
7. Hallucination	Present	Absent
8. Disorganized speech	Present	Absent
9. Disorganized behaviour	Present	Absent
10. Insanity	Present	Absent
11. Organic reason	Present	Absent
12. Genetic factor	More important	Less important
13. Stressful life events	Less important	More important
14. Types of condition	Schizophrenia, dis-associative identity disorder, drug-induced	Anxiety, depression, phobia & eating disorder
15. Difficult to treat	Yes	No / Easy to treat
16. Treatment	Antipsychotic drug	Counselling, behavioural therapy & suggestion therapy
17. Prognosis	Poor	Good

4 How would you evaluate and manage pain and tingling sensation in fingers in a patient with hypothyroidism?

Differential Diagnosis:
1. Carpal Tunnel Syndrome (CTS) – Most common neuropathy in hypothyroidism
2. Peripheral Neuropathy (due to hypothyroidism)
3. Cervical Radiculopathy
4. Raynaud's Phenomenon
5. Vitamin B12 Deficiency Neuropathy

	- Obstruction
Ultrasound of Whole Abdomen	- Detect hepatomegaly - Look for colon cancer metastasis (liver)
Barium Enema / Small Bowel Follow Through	- Identify stricture / narrowing
Ileocolonoscopy / Sigmoidoscopy with Biopsy	**Ulcerative Colitis – Colonoscopy findings**: • Loss of vascular pattern • Granularity • Friability • Contact bleeding (± ulceration) • Pseudopolyps **Ulcerative Colitis – Histology**: • Inflammation limited to mucosa • Crypt distortion • Cryptitis • Crypt abscess • Loss of goblet cells **Crohn's Disease – Colonoscopy findings**: • Patchy inflammation • Discrete deep ulcers • Perianal disease • Rectal sparing **Crohn's Disease – Histology**: • Submucosal / transmural inflammation • Deep fissuring ulcer • Fistula • Skip lesions • Granuloma **Carcinoma Colon – Colonoscopy findings**: • Colonic growth / mass
Carcinoembryonic Antigen (CEA)	- Elevated in colon cancer (Ca colon) – used for monitoring / prognosis
CT Colonogram / MR Enterography	- Used when colonoscopy is not possible (e.g., incomplete, contraindicated)

Investigation:

Name of Investigation	Aim/Interpretation
Complete blood count	High ESR, Low Hb, Neutrophilic leukocytosis
Urine R/M/E	Pus cell
Blood culture	Positive
Urine culture	Positive
Thick and thin film	To confirm malaria
Blood glucose	To exclude hypoglycemia
Serum electrolytes (blood urea, serum creatinine)	To exclude electrolyte imbalance
Lumbar puncture and CSF study	Meningitis, Encephalitis
CT scan of brain	Brain abscess, to exclude acute neurological state
C-reactive protein (CRP)	Inflammatory marker
ECG (resting and 24-hr Holter)	Detect arrhythmias, AV block, prolonged QT
Echocardiography	Assess for structural heart disease
EEG	Identify epileptiform activity
Brain MRI/CT	Rule out structural lesions, stroke, tumor

4. A 28-year-old man presented with recurrent passage of red urine at early morning for last 3 months with a history of deep venous thrombosis of his right lower limb. How would you evaluate him?

Likely Diagnosis:

Paroxysmal Nocturnal Hemoglobinuria (PNH)

Clinical Features

- Red/dark urine in early morning
- **Anemia:** fatigue, pallor, jaundice
- **Thrombosis:** especially in unusual sites (e.g., DVT, hepatic veins)
- **Pancytopenia:** infections, bleeding
- **Abdominal pain, dysphagia (NO depletion)**
- **Renal dysfunction** from chronic hemoglobinuria

Investigations and Key Findings (PNH)

Investigation	Findings
Urinalysis	Hemoglobinuria (no RBCs on microscopy)
CBC with Reticulocyte Count	Anemia, leukopenia, thrombocytopenia; ↑ retic
LDH	Elevated (marker of hemolysis)
Haptoglobin	Low (consumed in hemolysis)
Indirect Bilirubin	Elevated (unconjugated hyperbilirubinemia)
Coombs Test (DAT)	Negative (rules out autoimmune hemolysis)
Flow Cytometry for CD55/CD59	Gold standard: deficiency confirms PNH
D-dimer & Doppler USG (for DVT)	May show thrombosis (already diagnosed)

Station-3

List the positive findings?

- Lack of haustral markings of descending and sigmoid colon

Name the radiological sign seen in the picture here?

- Lead pipe sign

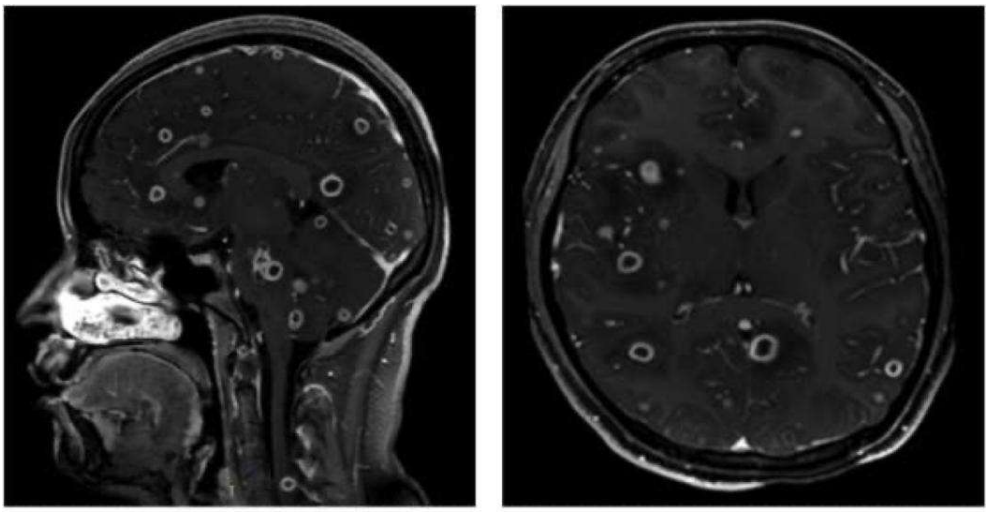
What is the most likely clinical diagnosis?

- Ulcerative colitis

Mention 5 (five) systemic complications during active phase of this disease?

- Iritis / conjunctivitis / episcleritis
- Liver abscess / portal pyaemia / fatty liver
- Venous thrombosis
- Arthritis
- Pyoderma gangrenosum
- Erythema nodosum
- Mouth ulcers

Station-4



What are the findings?

- Multiple well-defined **ring-enhancing lesions** throughout the cerebral hemispheres, cerebellum, and brain stem.

What are the differentials?

- Tuberculoma
- Toxoplasmosis
- Multiple metastasis
- Neurocysticercosis

Management options?

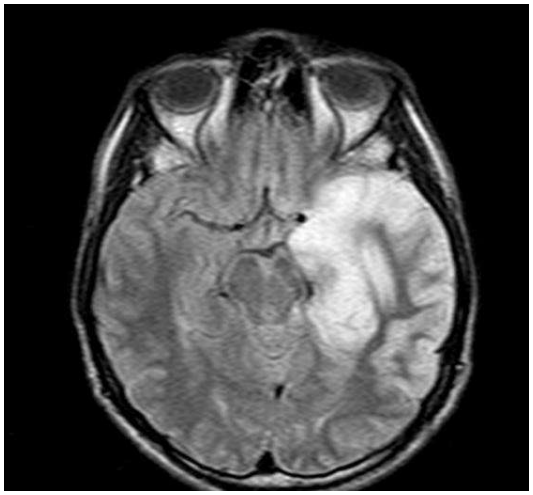
- Start with 0.9% NaCl soln. / normal saline 1 L over 1 hr
- Start IV insulin 0.05 U/kg/hour
- Prophylactic LMWH
- Antibiotic for sepsis
- Catheterization & maintaining input output chart
- Clinical assessment & monitoring of vital signs
- Perform initial investigations

Complications?

- Coma
- Seizures
- Cerebral edema
- Stroke
- Myocardial infarction
- Thromboembolic disease:(DVT) or pulmonary embolism.
- Acute renal failure
- Multi-organ failure
- Death

Station-4

9 years boy present with seizure,disorientation. He has H/O fever



Findings?

- MRI shows hyper intensity of left temporal lobe

Next investigations to confirm the condition?

- CSF study with PCR for herpes simplex virus
- EEG

Complications?

- Long term neurological impairment
- Seizure
- Cognitive impairment
- Movement & speech disorder
- Death