HKCEM JCM DEC 2025

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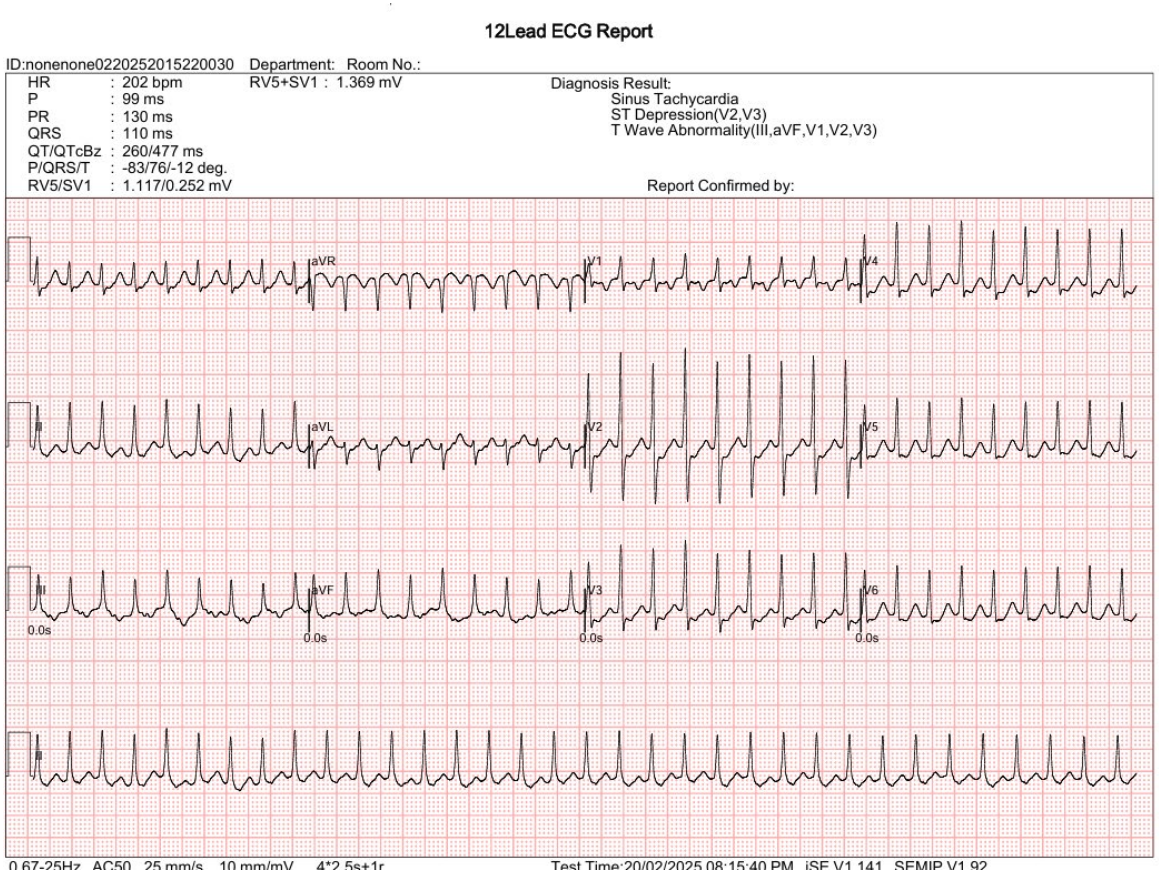
吾生也有涯，而知也無涯。以有涯隨無涯，殆已；已而為知者，殆而已矣。為善無近名，為惡無近刑，緣督以為經，可以保身，可以全生，可以養親，可以盡年。

莊子 – 內篇 養生主

Question 1

- An 8 year old girl attended your ED for **recurrent palpitation** attacks for 6 months. Despite the chronicity of her condition, she felt this episode was *unusually prolonged*.
- Triage notes:
- BP (omitted) P 200 Cap refill: brisk
- SpO2 99% (Room Air)
- Temp 36.8 degrees Celsius
- CATEGORY: II
- What bedside investigation do you want to order first?
- ECG

Question 1


12Lead ECG Report
ID:nonenone0220252015220030 Department: Room No.:
HR : 202 bpm
P : 99 ms
PR : 130 ms
QRS : 110 ms
QT/QTcBz : 260/477 ms
P/QRS/T : -83/76/-12 deg.
RV5/SV1 : 1.117/0.252 mV
RV5+SV1 : 1.369 mV
Diagnosis Result:
Sinus Tachycardia
ST Depression(V2,V3)
T Wave Abnormality(III,aVF,V1,V2,V3)
Report Confirmed by:
aVR
V1
V4
aVL
V2
V5
III
aVF
V3
V6
0.0s
0.0s
0.0s
0.0s
0.67-25Hz AC50 25 mm/s 10 mm/mV 4*2.5s+1r
Test Time:20/02/2025 08:15:40 PM iSE V1.141 SEMIP V1.92

Question 1

- What emergency condition you are dealing with?
- Paroxysmal SVT

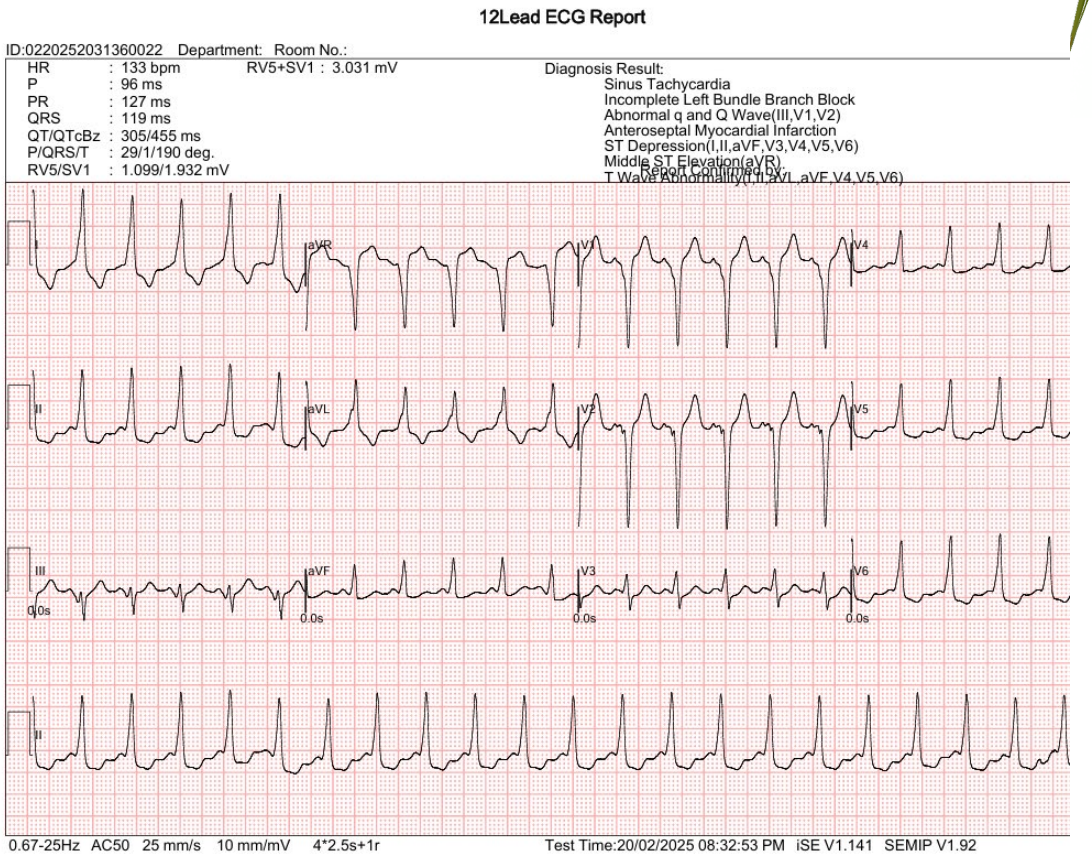
- What initial treatment you would offer?
- Vagal manoeuvre -- carotid massage, (modified) Valsalva, ice pad on face
- Pharmacological – IV ATP 0.167mg/kg
- Haemodynamically unstable – synchronized cardioversion 0.5-1J/KG

Question 1

- Name 3 possible causes of *recurrent/repetitive SVT*
- **Intoxication**: caffeine, digoxin, sympathomimetics
- **Electrolyte disturbance**
- **Hyperthyroidism**
- **Structural heart disease**
- **Pre-excitation syndrome** e.g. Wolf-Parkinson-White syndrome

Question 1

After your treatment…



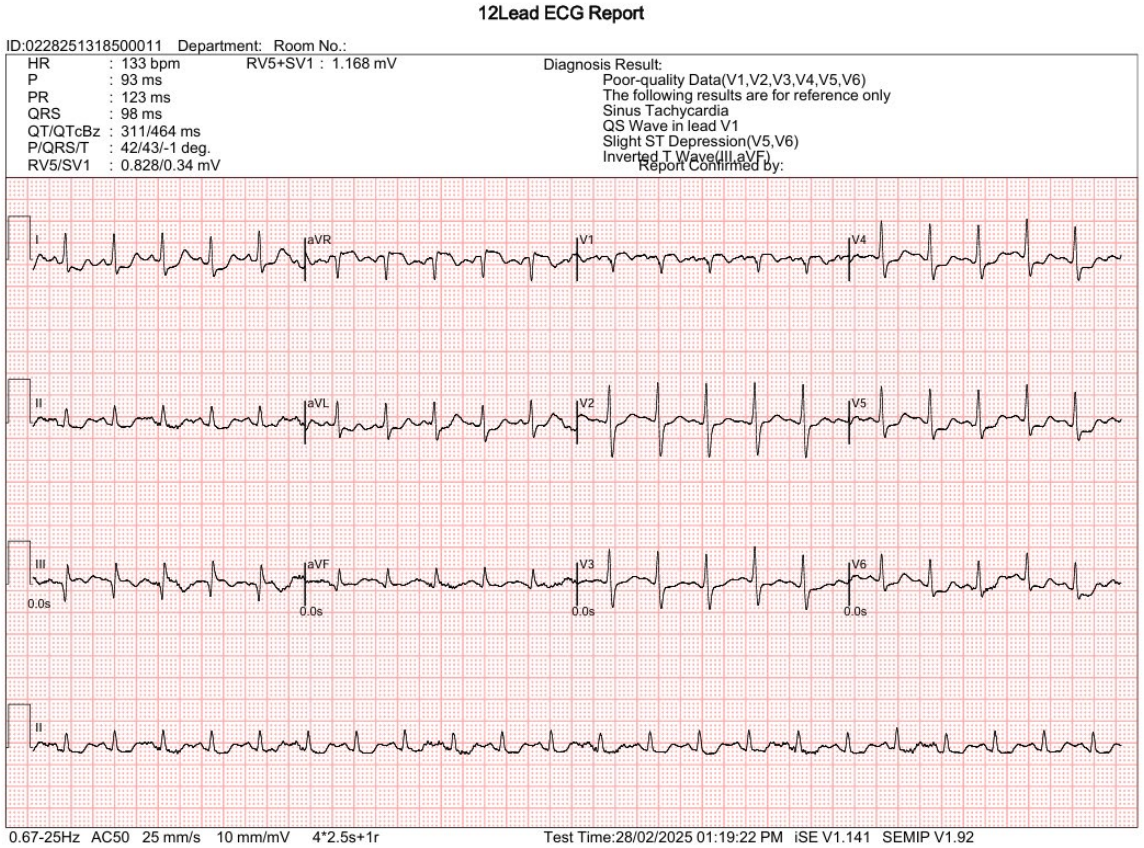
Question 1

- Describe the essential features of this ECG.
- Shortened PR interval
- Delta wave
- Negative QRS in V1 and V2 with transition to positive in lateral leads.
- What is the diagnosis?
- WPW type B
- What drugs should be avoided if the patient comes with unstable AF?
- Nodal blocking agent eg CCB, beta blocker, amiodarone.

Question 2

- 60 yr/M presented to emergency for **syncope**. On arrival he had *impaired consciousness and distended neck veins*. PMH: MR.
- Triage notes:
- BP **70/40** P 140
- SpO2 90% on NRM
- Temp 38 degrees Celsius
- CATEGORY II

Question 2


12Lead ECG Report
ID:0228251318500011 Department: Room No.:
HR : 133 bpm
P : 93 ms
PR : 123 ms
QRS : 98 ms
QT/QTcBz : 311/464 ms
P/QRS/T : 42/43/-1 deg.
RV5/SV1 : 0.828/0.34 mV
RV5+SV1 : 1.168 mV
Diagnosis Result:
Poor-quality Data(V1,V2,V3,V4,V5,V6)
The following results are for reference only
Sinus Tachycardia
QS Wave in lead V1
Slight ST Depression(V5,V6)
Inverted T Wave(III,aVF)
Report Confirmed by:
I
aVR
V1
V4
II
aVL
V2
V5
III
aVF
V3
V6
0.0s
0.0s
0.0s
0.0s
II
0.67-25Hz AC50 25 mm/s 10 mm/mV 4*2.5s+1r
Test Time:28/02/2025 01:19:22 PM iSE V1.141 SEMIP V1.92

Question 2

- Describe the features of this ECG.
- Sinus tachycardia
- Right ventricular strain pattern (TWI in inferior leads/ V1-4)
- S1Q3T3
- What is the most likely diagnosis?
- Massive PE.
- Point out some of the **bedside** Transthoracic Echocardiography features of this condition?
- Distended RV (normal RV < 2/3 LV size)
- IV septum bowing/ "D" sign
- Dilated and hypokinetic RV (McConnell sign)
- Dilated RA and IVC >2cm without inspiratory collapse
- Clot in transit

Question 2

- You liaised with ICU and arranged CT pulmonary angiogram. It confirmed saddle PE.
- **How could you save this patient's life?**
- Immediately give IV alteplase 100mg (first 10-20mg bolus then infuse over 2 hours)
- Alternative TNK (according to BW range)
- Support haemodynamic: prefers inotropes e.g. adrenaline. Limit fluid resuscitation.
- Liaise for surgical/IR clot extraction.

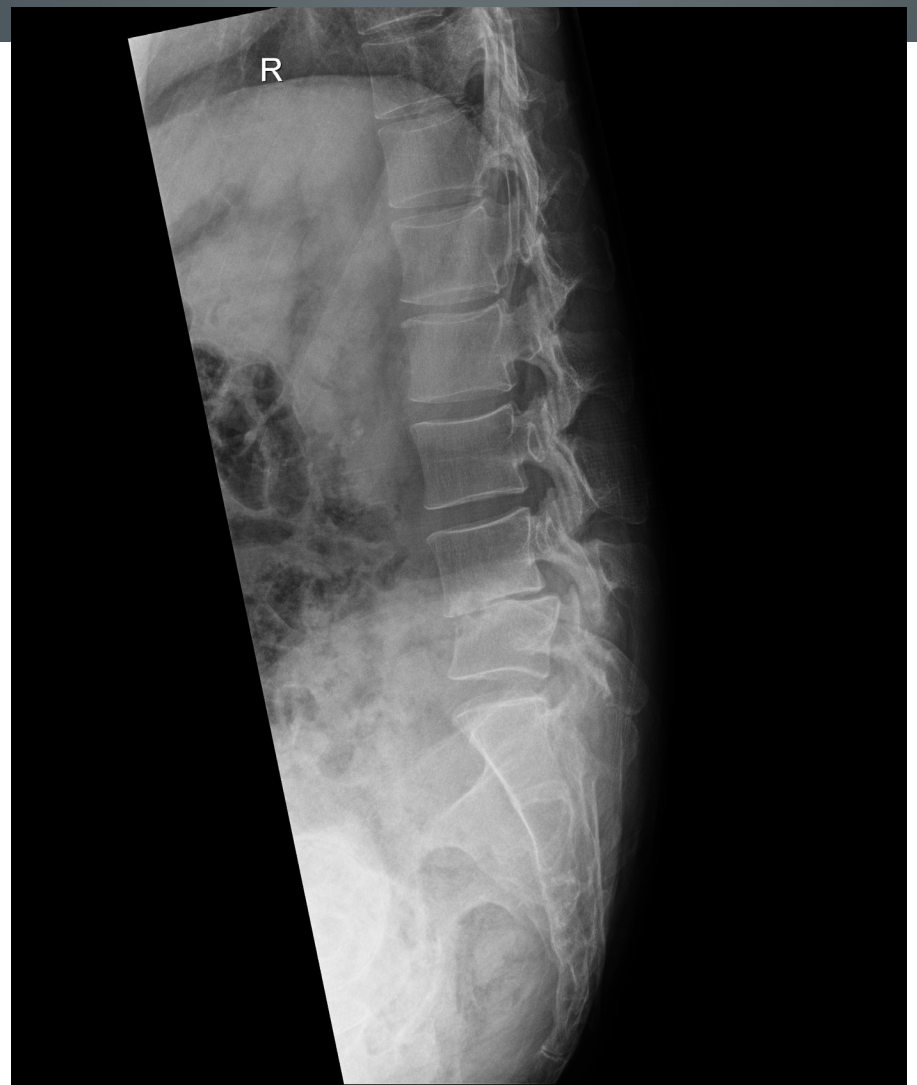
Question 3

- 55 years old gentleman with history of RA on multiple immunosuppressants , attended *through ambulance* for low back pain and left sciatica for 1 week.
- Triage notes:
- **STRETCHER**
- BP 145/80 P 70
- SpO2 99% Room Air
- Temp 37.8 degrees Celsius
- CATEGORY IV

Question 3

- Please explain the indications for Lumbosacral Spine X Ray for this patient.
- *Significant motor deficit – required stretcher.*
- *History of Rheumatoid Arthritis with febrile illness on presentation.*
- *Concurrent use of multiple immunosuppressants.*

Question 3



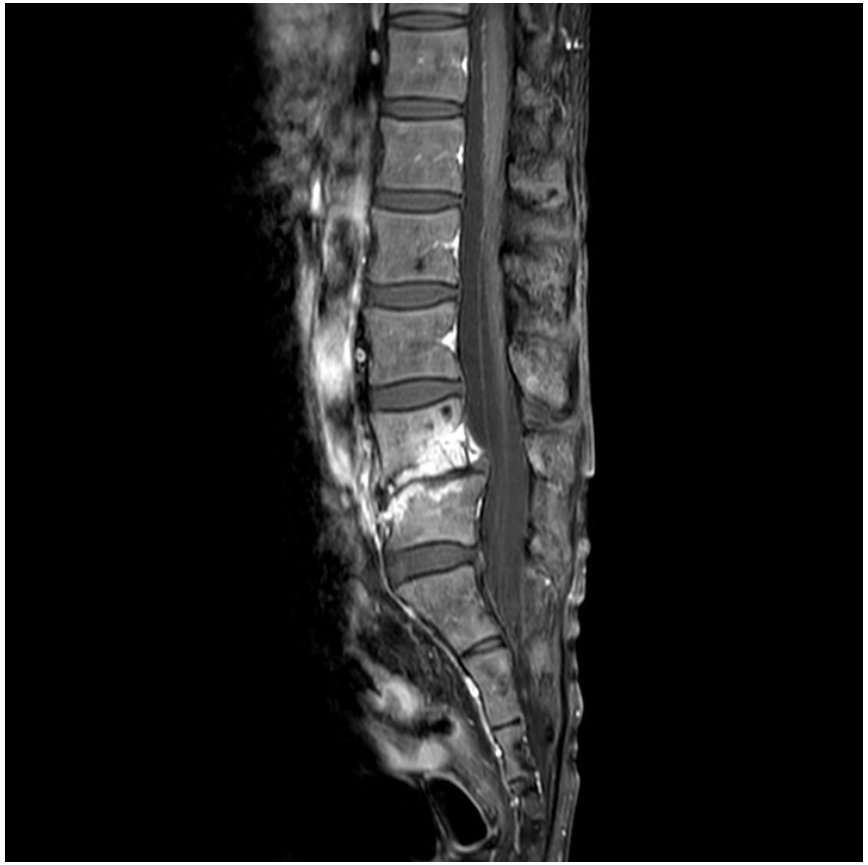
Question 3

- What are the abnormalities in this LS spine X Ray?
- Narrowed disc space between L4/L5
- Endplate erosion and sclerotic change between L4/L5.

Question 3

- What further imaging you would consider?
- MRI LS spine WITH CONTRAST

Question 3



Could you describe the image?

T1W image with CONTRAST ENHANCE PHASE.

Showing robust inflammatory change at L4/L5 endplate and disc. IV disc is completely obliterated.

Mild retropulsion. No significant compression to cauda equina.

No sizeable abscess for drainage.

Question 3

- What is your provisional diagnosis?
- Spontaneous Pyogenic spondylodiscitis (with osteomyelitis)

- What are the potential risk factors for this condition?
- IV drug addict
- Diabetes Mellitis
- Spinal instrumentation
- Immunosuppressed (eg, organ transplant, long term steroid)

Question 3

- What are the possible culprit bacteria?
- Staphylococcus aureus , MRSA, enterococcus, enterobacteriacea, beta-hemolytic streptococci.
- What is the recommended duration, choice and route of antibiotics treatment?
- *Ceftriaxone i.v. 2 grams daily for >=6 weeks.*
- *Consider vancomycin 15-20mg/kg/dose Q8-12hours for susceptible group e.g. IV drug addict/biological evidence.*

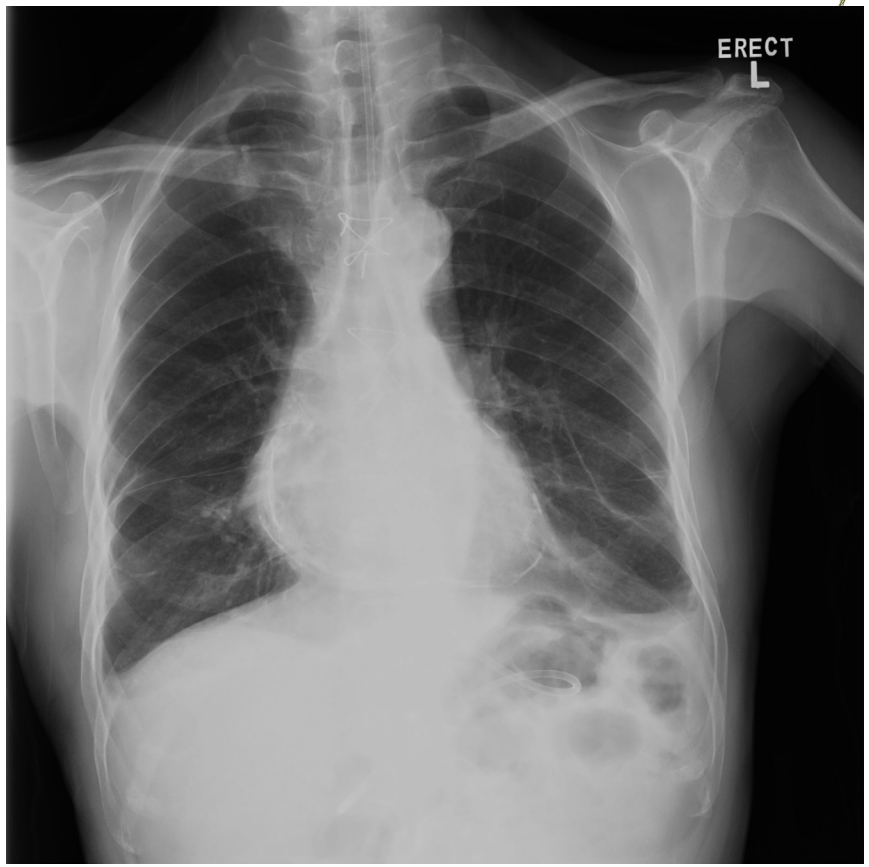
Question 4

- 57 years old/M
- Presented with 1 week history of epigastric pain. He had long history of racing heartbeats, ankle edema and unexplained malaise. He received open heart surgery 10 years ago.
- Triage notes:
- BP 105/65 P90
- SpO2 99% Room Air
- Temp 38 degrees Celsius
- CATEGORY III

Question 4

Here is his CXR.

Comment on this X Ray.



No free gas under diaphragm

Sternal stitches

Uniform calcification at pericardium

Blunted CP angle

Question 4

- What is the most likely diagnosis of his chest discomfort and heart failure symptoms?
- *Constrictive Pericarditis.*

- What are the possible aetiologies of this diagnosis?
- Tuberculosis
- Viral pericarditis
- Irradiation
- Open heart surgery
- Metastatic cancer
- Rheumatological condition ie SLE, RA, Sjogren's syndrome, extraintestinal manifestation of IBD

Question 4

- After extensive work up in medical unit, he was diagnosed with **Crohn's Disease**, which accounted for his abdominal pain.
- What **other systems** of his body could possibly be affected?
- *Musculoskeletal*: arthritis, hypertrophic osteoarthropathy, polymyositis
- *Dermatological*: erythema nodosum, pyoderma gangrenosum, vitiligo.
- *Ocular*: anterior uveitis.
- *Renal system*: Calcium oxalate stones
- *Hepatopancreatobiliary system*: primary sclerosing cholangitis, CA, cirrhosis

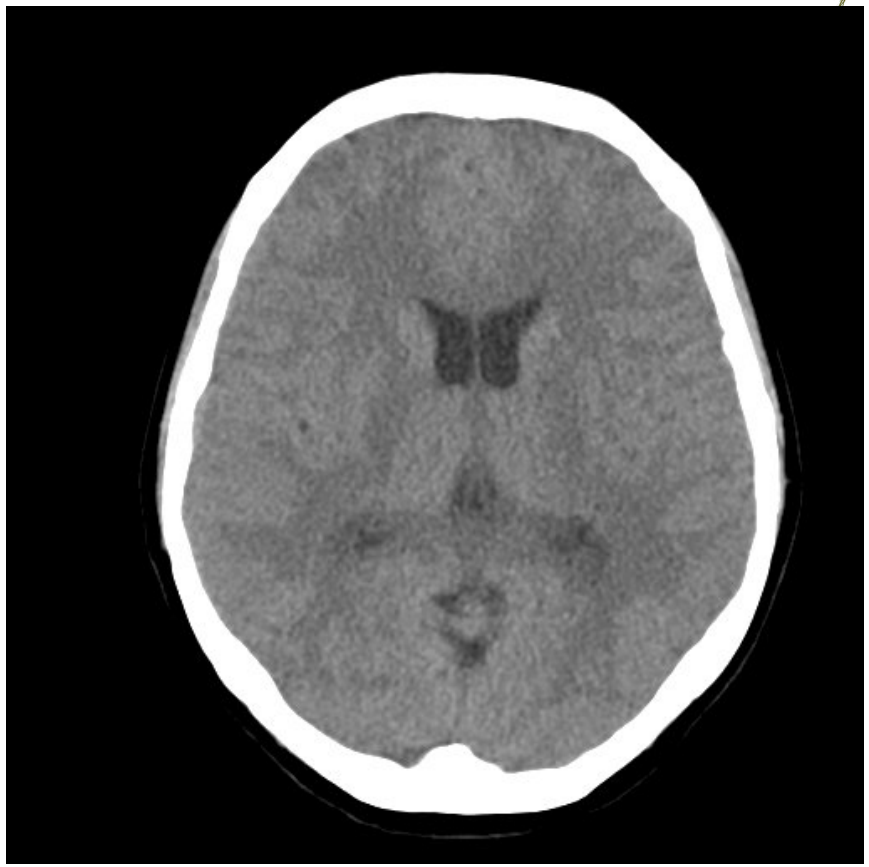
Question 5

- A 40-year-old/F was transferred from private hospital with her friends for acute confusion for 1 day. She had CT brain performed in private with diagnosis : **idiopathic intracranial hypertension.**
- Triage Notes:
- BP 150/80 P 87
- SpO2 100% RA
- Temp 38 degrees Celsius
- H'stix 6, H'cue 4.5
- CATEGORY II

Question 5

Comment on this CT brain.

Diffuse effacement of sulci.



Question 5

- Is the presentation compatible with the provided diagnosis?
- **No**. Idiopathic intracranial hypertension usually presents with subacute onset of headache instead of acute confusion/delirium. CT brain usually has negative findings.
- Please suggest a few possible causes of BILATERAL cerebral sulci effacement in this case?
- MULTIPLE Space occupying lesion
- Global Hypoxic-Ischemic encephalopathy
- hydrocephalus
- Bilateral stroke
- Delayed presentation of subarachnoid haemorrhage

Question 5

- She **did not have travel history/drug/TCM misuse**. No further history was available from friends. Physical examination showed generalized petechiae and ecchymosis all over the lower limbs. She was jaundiced and pale looking. H'cue was 5.0. Abdomen examination was unremarkable. PR no blood no melena.
- Suggest a few possible causes of her acute confusion?
- Acute cholangitis with DIC
- Acute fulminant liver failure
- Dengue shock syndrome
- Thrombotic Thrombocytopenic Purpura

Question 5

- Hematologist informed you that the patient has low RBC and low platelet count, microscopy showed increased schistocytes, high retic count. Please suggest tests to differentiate DIC and TTP.
- Clotting profile. (aPTT and PT would be marginal or normal in TTP)
  Fibrinogen level. (low in DIC, normal in TTP/HUS)
  D-dimer (increased in DIC, normal in TTP/HUS)
- What is the first line treatment for TTP?
- Plasma Exchange.
- Suggest one blood test to prognosticate this patient's condition.
- ADAMTS13 level.

Question 5 – extra-information

Feature	TTP	DIC
Primary Mechanism	Deficiency of the ADAMTS13 enzyme, causing large von Willebrand factor (VWF) multimers to form platelet-rich clots	Widespread activation of coagulation, leading to both clotting and bleeding
Coagulation Profile	Normal; PT and APTT are generally normal or marginally impaired.	Abnormal; prolonged PT and APTT, low fibrinogen, elevated FDPs
Thrombi Composition	Platelet-rich	Fibrin-rich
Key Diagnostic Test	ADAMTS13 activity assay	Coagulation panel (PT, APTT, D-dimer, fibrinogen)
Associated Findings	Fever, Anemia (MAHA), Thrombocytopenia, Renal failure, Neurologic deficits	Bleeding, often from multiple sites

THE END. THANK YOU.

PWH A&E JCM OSCE 2025