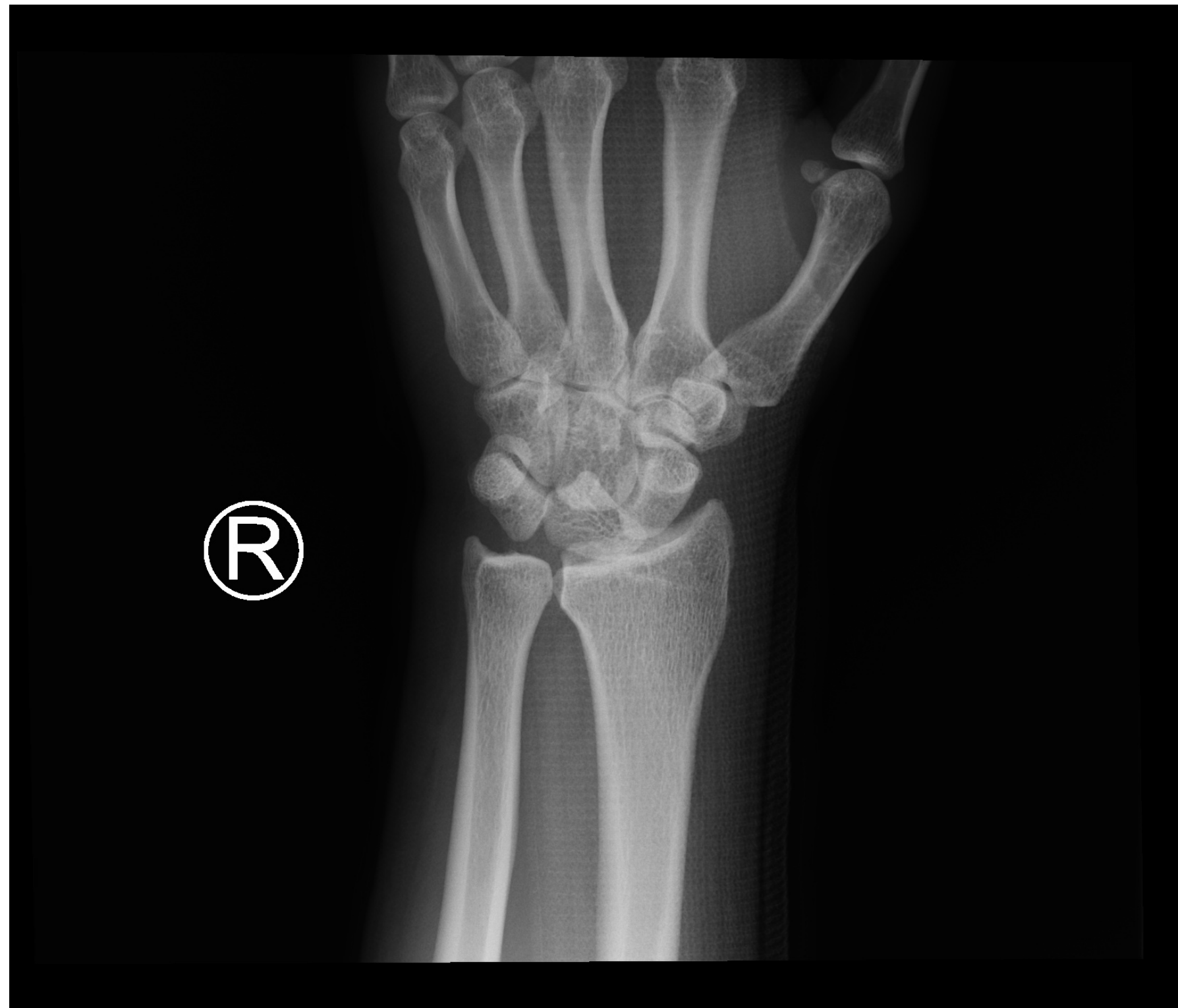


JCM 3/2026

Union Hospital

Case 1



35 yr old male fell on an outstretched hand during sports with right wrist pain.

Case 1

- 1a. What are the radiological findings?
 - AP: Disrupted Gilula's arcs, piece of pie sign, Lateral: Spilled tea cup sign



- **1b. What is the most likely diagnosis?**
 - **Lunate dislocation**
- **1c. What is the most common mechanism of injury**
 - **Fall on outstretched hand with the wrist in forced hyperextension, ulnar deviation and axial loading (fall from height, motor vehicle accidents, high energy impact in sports etc)**
- **1d. What is the management for the patient?**
 - **Urgent Orthopaedic referral with close reduction under sedation to relieve pain and neovascular pressure**
 - **Followed by open reduction, internal fixation, ligament repair and K-wire or screw fixation**
- **1e. Give 3 potential complications if untreated**
 - **Acute carpal tunnel syndrome (median nerve compression), post-traumatic arthritis, Avascular necrosis (Kienbock's disease), chronic carpal instability etc**

Case 2

- 3 year old child fell while playing in playground with head injury
- No loss of consciousness
- No vomiting
- Continued to play then back home

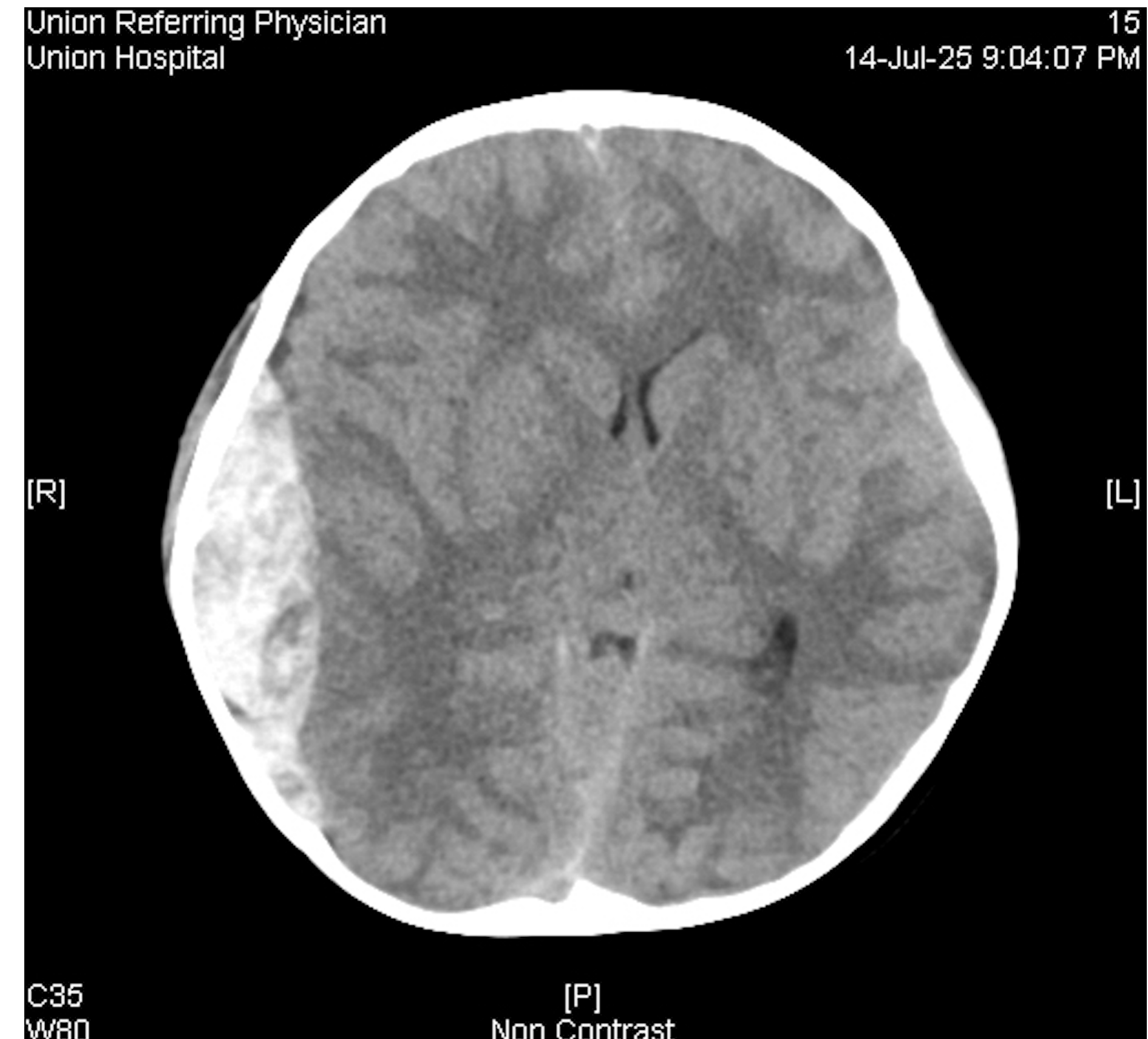
4 hours later...

- Became drowsy and started to vomit more than 4 times
- Mother took the child to hospital
- P/E
 - GCS 6/15
 - Pupils: R 5 mm sluggish to light, L 3mm reactive to light
 - R scalp hematoma
 - Hemodynamics and oxygen saturation normal

- **2a. What is the most worrisome clinical syndrome and the nerve compromised?**
 - **Diagnosis: Uncal Herniation.**
 - **Nerve Compromised: The Oculomotor Nerve (CN III).**
 - The uncus of the temporal lobe herniates through the tentorial notch, compressing the ipsilateral CN III. This causes the "sluggish" and eventually "fixed dilated" pupil due to the loss of parasympathetic tone.
- **2b. What is the urgent intervention needed to be done for the patient?**
 - **Rapid Sequence Intubation (RSI) and consider empirical hyperosmolar therapy**
 - **Rationale:** To protect the airway from aspiration (vomiting) and to prevent secondary brain injury from hypoxia or hypoventilation in a patient with decreasing conscious level (GCS < 8) .

2c. What are the CT brain findings

- Large bi-convex shaped extra-axial hyper density overlying R cerebral convexity
- Significant mass effect onto the R cerebral hemisphere with mild L midline shift
- Global sulcal effacement and loss of subarachnoid spaces due to mass effect
- Dx: acute epidural haematoma



- **2d. The child needs to be transferred to another hospital for neurosurgery and paediatric ICU support. What is the condition most concerned before transfer? What medication is needed to correct this?**

- **Increased ICP**

- **Hypertonic saline (3%)**

- **Dosage: 2–5 mL/kg** (over 10–20 minutes).

- Hypertonic Saline is preferred over Mannitol in pediatrics to avoid diuretic-induced hypovolemia/hypotension. The Brain Trauma Foundation (BTF) Guidelines (2019) list it as a Level II recommendation for ICP control

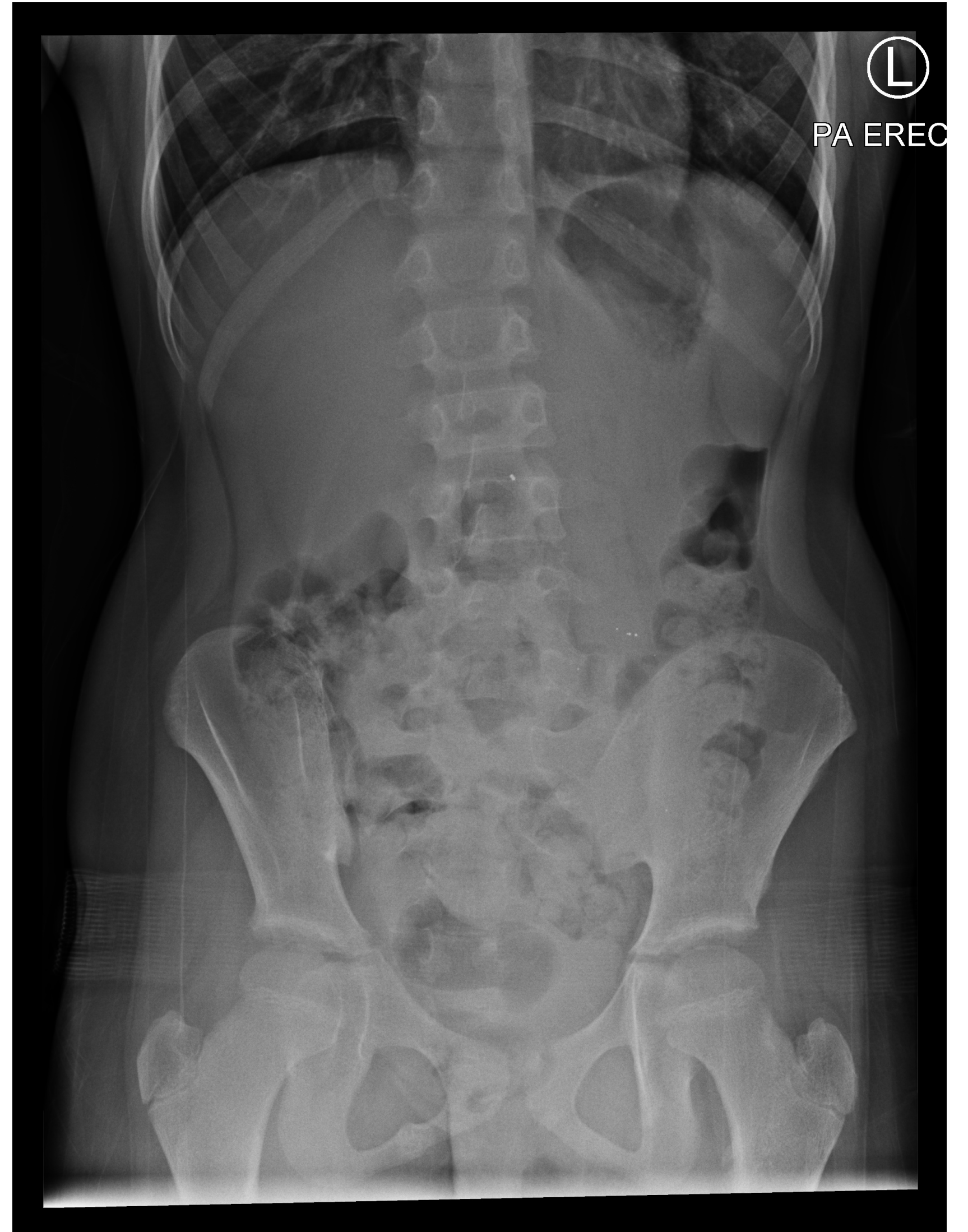
- **If unavailable, mannitol 0.25-1g/kg IV (avoid if hypotensive)**

- **2e. What is the definitive surgery needed?**

- **Decompressive craniotomy and clot evacuation**

Case 3

- 9-year old girl accidentally broke thermometer while eating congee at home
- She noticed something spilled into the congee; she removed the visible dirt and continued to eat
- There was no abdominal pain and no vomiting.
- Her parents brought her to the hospital and Xray was done.



Case 3

- **3a Interpret the abdominal X-ray findings in this child.**

Several punctate, high-density foci (<0.2cm) in the abdomen which may present ingestion of foreign bodies. (Because mercury has a high atomic number (80), it is highly radio-opaque. In the context of a broken thermometer, these represent beads of elemental mercury.)

- **3b. Describe the different forms of the culprit and identify which type poses acute life-threatening complication in pediatric exposure.**

- **Forms:**

- 1.Elemental (Metallic):** Found in thermometers and dental amalgam.

- 2.Inorganic (Salts):** Found in some batteries, disinfectants, and skin-lightening creams.

- 3.Organic (Methylmercury):** Found in contaminated fish/seafood.

- **Inhalation of Elemental Mercury Vapor** can cause the most acute life-threatening pediatric complications (e.g., chemical pneumonitis)

3c. Outline management strategies for this asymptomatic child.

- Elemental mercury absorption in the GI tract is minimal so observation for natural passage. Activated charcoal not useful (does not bind metals).
- Can discharge with advice

3d. What is the management if there is culprit spilled on the ground?

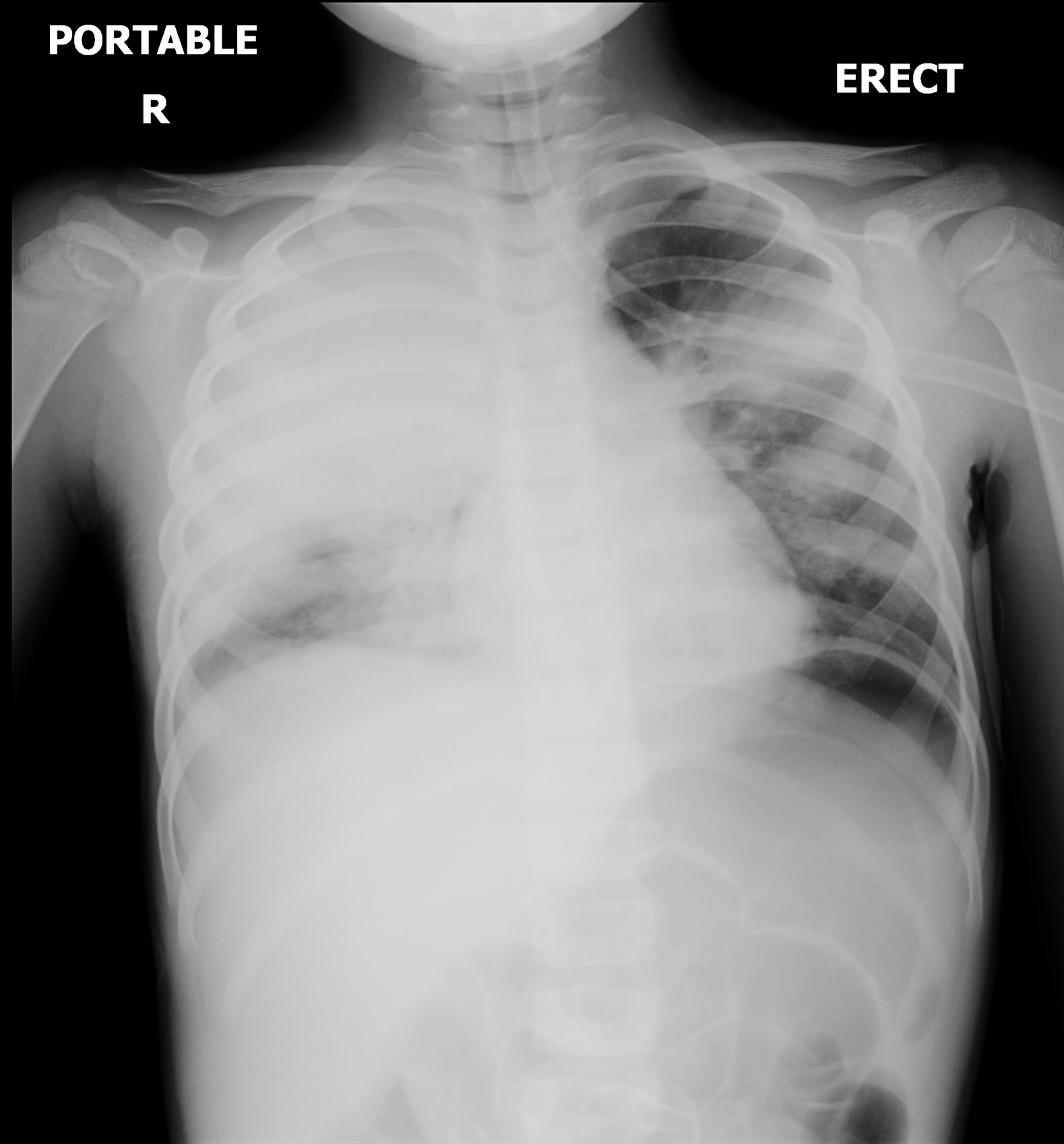
- **Immediate Action:** Open the windows for airing out of any vapour
 - **The "Don'ts":** Never use a vacuum or broom, as this breaks the mercury into smaller droplets, raise toxic mercury vapor levels.
 - **The "Dos":** Wear gloves. Clean up with paper, cardboard or eyedropper. Remove with damp paper towels or wet wipes; place the cleanup materials in double wrapped plastic bag
- 3e. What needs to be done before discharging the girl?
 - Arrange follow-up with AXR to ensure safe passage of all elemental mercury

Case 4

- 8 year old girl complained of fever, cough for 4 days
- She had been seen by GP for 2 times and treated as URI
- Her symptoms worsened rapidly on the day of presentation
- Very poor oral intake, malaise+
- P/E
 - lethargic+ mild cyanosis
 - Bedside SpO2 78% with RA, to 100% with 6L oxygen
 - CXR shown below

PORTABLE
R

ERECT



4a. What is your diagnosis?

Severe pneumonia with respiratory failure

4b. What is the most likely causative organism? Name 2 other possible pathogens.

- *Streptococcus pneumoniae*
- *Hemophilus influenzae*, *Mycoplasma pneumoniae*

4c. After stabilisation, what will be the empirical treatment for life-saving?

- IV 3rd generation cephalosporin (ceftriaxone) + vancomycin (Vancomycin is essential because it is the only antibiotic to which all *S. pneumoniae* strains currently remain susceptible)

- 4d. Identify the most lethal subtype and its complications
 - **serotype 3**, high mortality (30-47%), causes severe empyema, bacteremia, meningitis, and **myocarditis**.
- 4e. What are the current vaccinations for the disease in HK?
 - **PCV15, PPSV23, PCV20**

Comparison of Pneumococcal Vaccines

Vaccine Type	Brand Name	Serotypes	Pros	Cons
PCV15	Vaxneuvance	15	Superior Serotype 3 protection (critical for HK); triggers strong immune memory; free under HKCIP/GPVP.	Covers fewer serotypes than PCV20 or PPSV23.
PCV20	Prevnar 20	20	Widest conjugate coverage; single-dose protection for most adults; no need for PPSV23 follow-up in some cases.	Not currently free under standard HK government schedules (private pay ~HK\$1,900–\$2,200).
PPSV23	Pneumovax 23	23	Widest overall serotype coverage; long-standing safety profile.	No immune memory; ineffective in children <2 years; protection wanes after 5 years.
PCV13	Prevenar 13	13	Proven global track record over the last decade.	Outdated; weaker Serotype 3 response compared to PCV15; being replaced in HK.

Case 5

**44 year old man with history of DM
complained of left foot pain after
repeated minor injury.**

**•5a. What are the differential diagnoses
based on this photo?**

- Cellulitis**
- Osteomyelitis**
- Septic arthritis**

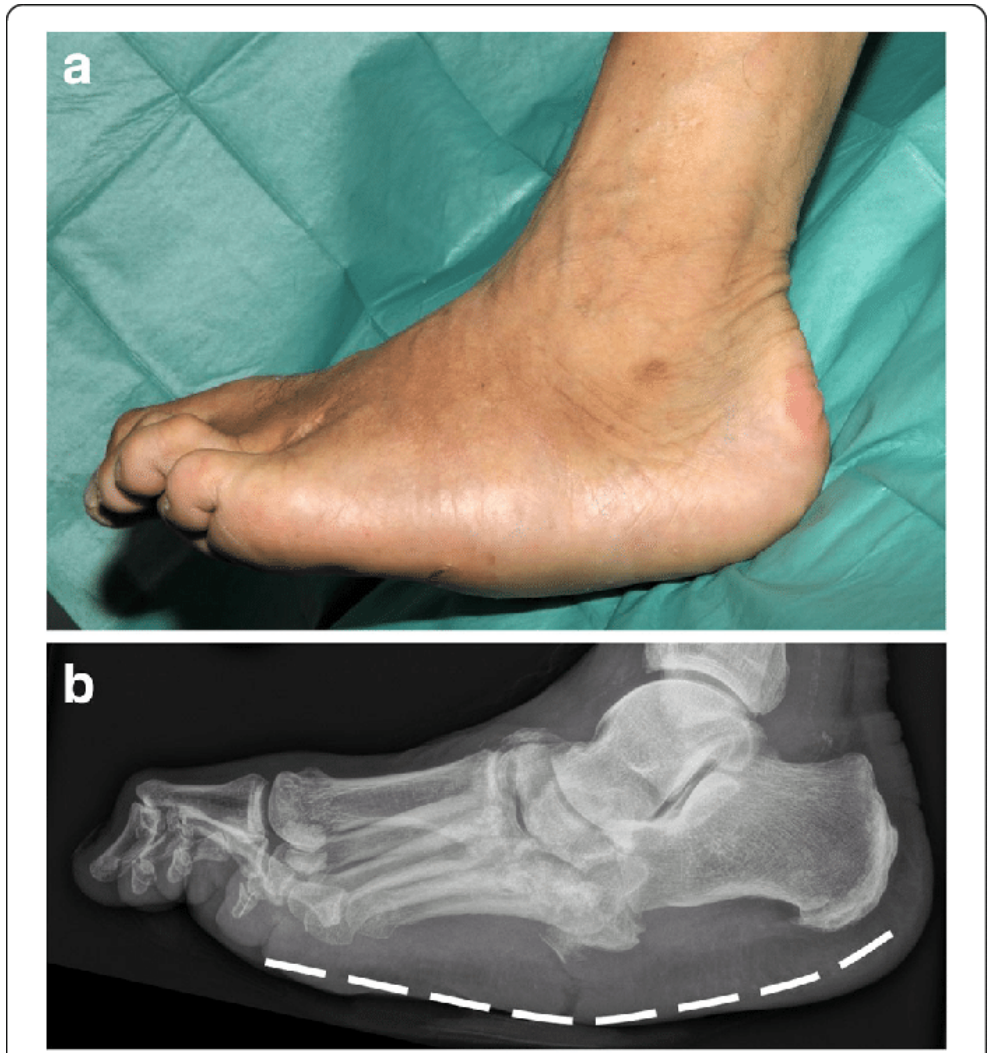


- 5b. Xray done and showed this, what do you see?
 - 1) decreased joint spaces, bone resorption in tarsal bones
 - 2) subchondral sclerosis
 - 3) periarticular debris
 - 4) soft tissue swelling
- 5c. What is the likely diagnosis?
 - **Charcoat arthropathy**



- **5d. What is the name of classification for the condition**
- **Eichenholtz classification (Stage 0-3)**

Stages	Description	
	Clinical Findings	Imaging findings in Radiography
0 (Inflammatory)	localised warmth, edema, erythema	minimal, if any abnormalities (MRI would show subchondral bone marrow edema with or without non-displaced pathological fracture)
1 (Fragmentation)	localised warmth, marked edema, erythema	focal bone demineralisation (early), debris formation at the articular margins, fragmentation of subchondral bone, subluxation, dislocation and periarticular fractures
2 (Coalescence)	continued but decreased warmth, edema and erythema	absorption of fine debris, fusion of large fragments of adjacent bones and/or new periosteal bone formation
3 (Consolidation)	decreased or absent warmth, edema and erythema	remodelled and new bone formation, decreased osteosclerosis and/or possible gross residual deformity



- **5e. List 3 factors causing this disease**
 - **Poorly controlled DM**
 - **Neuropathy**
 - **Repeated minor trauma**
- **5f. Outline the immediate management in AED**
 - **Strict offloading (non-weight-bearing with crutches or cast)**
 - **pain management**
 - **urgent referral to Orthopedics**