CASE-BASED DISCUSSIONS 19TH NOVEMBER 2019

CASE ONE

38 yr old man has collapsed at home with abdominal and back pain. He is brought into your ED resus area by an ambulance. He has no known past history. His initial observations are:

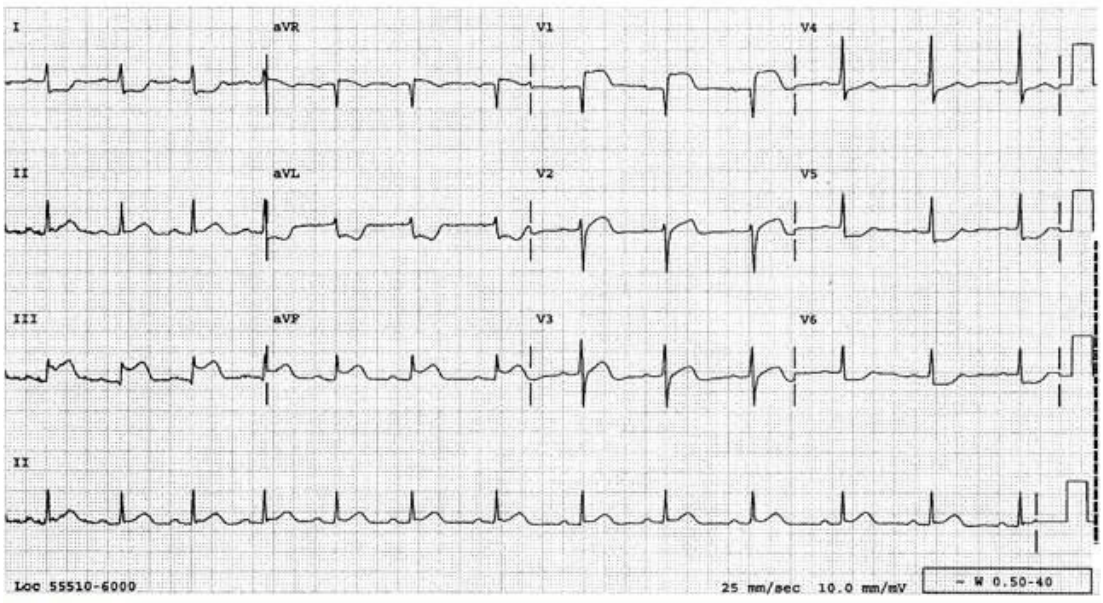
GCS 15, BP 180/100, HR 110bpm, 98% oa, 36.7, RR 20

1. **Discuss your differential diagnoses and initial investigations?**

- Differential
  - Cardiac – ACS, valvular, rhythm
  - Surgical perforated viscus, hepatobiliary, pancreatitis, appendix
  - Vascular – Aortic pathology, PE
  - Metabolic

- Investigations
  - ECG
  - VBG (bloods)
  - Bedside USS – free fluid, Aorta, cardiac (function, effusion, RV strain)
  - CXR/AXR

2. **He describes upper abdominal and chest pain radiating into his back. Review the ECG and discuss your concerns and next investigation?**



- STE aVR and V1 + III/aVF, ST depression lateral/high leads concern LMCA (L dominant system) LESION
- Clinical hx concerning for Ao dissection? root/coronary artery involvement
- Involve cardiology
  - Get formal echo
  - Beside informal while waiting and CT aorta

3. **Review your bedside echo what is your diagnosis?**

- Significantly dilated aortic root with AR and dissection flap evident

He suddenly becomes poorly responsive with hypotension. He is maintaining his airway, is cold and poorly perfused. BP 60/40, HR 120, GCS 10 (M5)

4. **What are your clinical concerns and how are you going to manage him?**

- Possible extension of dissection
    - Carotids
    - Coronary risk cardiogenic shock
    - Pericardial space – effusion

- Repeat beside exam – pulses, heart sounds, pupils, focal neurology
- ECG
- Bedside echo - ? pericardial fluid

- Fluid resuscitation +/- push dose squeeze (metaraminol) aim BP 90
- Get help ASAP

5. **His BP is minimally responsive to IVF bolus of 1L and 2mg metarminol. He remains confused and combative. His repeat bedside echo is shown. Discuss your approach to his management?**

- Pericardial effusion – given clinical findings possible tamponade
- Given more fluid/pressor
    - **Consider pericardiocentesis ? traditionally contraindicated in dissection**
    - May have no choice if arrest/peri arrest despite fluid/pressors
    - Difficult procedure as often small volume
    - Temporising measure only to definitive care
    - High mortality

- Likely needs RSI

    - Equipment
    - Team – airway, leader, drugs, proceduralist
    - Drugs (ketamine, muscle relaxant, arrest drugs)

- Ideally stabilise for CT aorta but formal bedside echo may be sufficient if too unstable for CT
- **Discuss with cardiothoracic** early (even before CT)

He is intubated and has a BP of 70 systolic post 2L IVF/PRN metarminol. A formal echo confirms a proximal root of 6.8cm with flap and pericardial effusion. He has been accepted by cardiothoracic.

6. **Discuss your transfer plan?**

- Experienced escort
- Develop a plan for any deterioration on route
- ➢ Best to avoid any delay to definitive surgical care

- Equipment
- Communications with receiving Hospital locations
    - OT
    - ICU
    - ED
- Family up to date and aware of high chance of death