

Lead Examiner

Candidate Number:

Co-Examiner

Final Mark:

SCENARIO

A 73 year-old woman is brought into your urban district Emergency Department after a fall at home. Her husband witnessed the fall; he reports that she fell forward, striking her forehead on a coffee table. Currently her heart rate is 90, her systolic blood pressure is 110 and her GCS is 15.

Neurological findings:

- Weakness and hyporeflexia in all limbs, worse in upper limbs than lower limbs.
- Reduced sensation in parts of the upper limb but normal in the lower limbs

Question 1: Outline the key features in your history. (2 minutes)

Expected Response	Details & Comments	Expected Answer
Issues	Cause of fall – “Mechanical” vs “Medical” – Not mutually exclusive in elderly pt Establish if contributory medical conditions eg arrhythmia, hypotension, CNS deficit, anaemia “Medical” causes – syncope vs seizure vs other CNS Determine consequences of fall – findings are suggestive of central cord syndrome	• Must have high index of suspicion of non-mechanical fall • Obtain appropriate history, including ○ Collateral from husband ○ Account of fall ○ Past medical history (CVD, CAD, Falls) ○ Medications (anticoagulants, antihypertensives, anti-arrhythmia) • Identify sequelae of fall ○ Conscious level ○ Neck or other pain ○ Motor deficits
History	Collateral is crucial, from husband – circumstances, triggers, preceding phenomena, such as dizziness, CP, headache Post fall events – LOC, seizure, drowsiness, confusion Trauma to other areas apart from head Risk factors: Hx of falls, CNS deficits such as stroke, arrhythmias, anti-HT meds Other PHx: DM, stroke, CVS disease are relevant Other meds – anticoags or antiplatelets are relevant Home circumstances – premorbid QOL, levels of support Symptoms: neck pain, focal weakness or numbness (?consistent with exam findings)	

Question 2: You suspect a spinal cord injury. Outline your management of the patient (2.5 min)

PROMPT: If necessary, redirect towards spinal cord injury.

Expected response	Details and comments	Expected Answer
Supportive	ABCs – anticipate <u>possible</u> neurogenic shock Immobilisation (if not already applied): collar as minimum Analgesia Communication and support – she is awake and aware. Also care of husband.	Bold to pass
Specifics	Treat co-morbidities and other injuries Superficial wound Mx – eg on forehead If anticoagulated – reversal, balanced against risks Tetanus immuno-prophylaxis ? High dose corticosteroids – evidence is equivocal, particularly for incomplete lesion such as this. Candidate expected to justify their choice, and demonstrate familiarity with issues. Consultation with spinal service is indicated. NGT- Ileus possible IDC - Monitor urine output - urinary retention common Pressure care	
Disposition	Needs transfer to specialised spinal (or Major Trauma) unit Candidates may organise retrieval or facilitate medical escort themselves	

Question 3: Just prior to transfer, nursing staff alert you to a deterioration in the patient. Her HR is now 101 bpm and her SBP 88 mHg. Outline your response. (2.5 min)

Expected Response	Details & Comments	Expected Answer
Delay transfer	Delay until confident that transfer is safe and appropriate	Bold required Identify three causes: • Haemorrhage • Cardiac • Sepsis
Reassess patient	Reassess patient	
Identify reversible causes for deterioration	Medical causes of original fall – cardiac arrhythmia/failure Needs cardioresp monitoring and repeat 12-lead ECG. Specific Rx pending findings.	
	Precipitating event- Search for other causes! Eg Haemorrhage, sepsis, allergic reaction.	
	Exclude haemorrhage- Tachycardia is a concern. Other imaging such as FAST or CT, subject to clinical re-evaluation.	
	Exclude sepsis- May cause hypothermia	
	?Neurogenic Shock- HR is not consistent. Central cord syndrome is an incomplete injury, and usually does not cause neurogenic shock. Low temp from ? exposure or other injury.	
Fluid therapy	IV crystalloids, titrated to parameters: specific target BP, UO, ABG, GCS	
Other	Documentation Update stakeholders: retrieval service, receiving hospital, NOK	

Question 4: Compare and contrast CT versus MRI in the evaluation of suspected acute spinal cord injury.

Urgent neuroimaging indicated. Trade off between diagnostic yield and availability / safety.		
CT	MRI	
Higher yield for bony injury; limited assessment of discs, cord, roots	Gold standard for neuroimaging	
Higher availability	Unlikely to be available at urgent notice in urban district ED	
Rapid assessment with late generation scanner	Prolonged period on table – high risks if pt unstable Likely delay of inevitable transfer to tertiary service	
Radiation exposure	No radiation exposure, but contra-indicated if she has PPM or other certain metal in situ	
Easier to interpret: gross abN can be determined without radiologist	Need for radiology interpretation adds to turn-around time	
Conclusion: MRI definitive option, but impractical in urban district ED setting. Opt for urgent CT if suspect associated C-spine #. Then defer MRI until transferred to tertiary service.		

Comments: (if you fail the candidate, please state why)

If the candidate fails the exam overall, what feedback would you suggest CIC provide for this SCE?

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