



You are working in a suburban hospital, and reviewing a 25-year-old man with neck pain associated with pins & needles in bilateral upper limbs. He states that he was in a pool when his friend jumped on to his neck, pushing him into the pool. He then c/o brief bilateral lower limb weakness followed by pins and needles in his arms, associated with neck pain. The lower limb weakness resolved after few minutes but the weakness, pins and needles in his arms persist on arrival to ED. He denies taking any recreational drugs but has drunk few bottles of beer.

His vitals are normal, he has mild tenderness over his mid cervical region in midline and the neurological examination reveals posterior lower cervical spine tenderness, 3/5 weakness in the upper limbs, with normal sensations, the lower limbs examination is normal. His C-Spine X Ray is shown below



Xray courtesy of Assoc Prof Craig Hacking, Radiopaedia.org, rID: 66804



Q1 - State 2 relevant abnormal findings (2 marks)

1 - Anterior-inferior Tear drop # of C2

And either of following

2 - Prevertebral soft tissue swelling

3 - C2 on C3 retrolisthesis

Q2 - What is the most likely diagnosis for this neurological presentation? (1 mark)

Central Cord Syndrome

Q3 - List three (4) cord syndromes and state how to differentiate them by according to their affected spinal tracts, aetiology, clinical presentation and prognosis. (20 marks)

	1	2	3	4
Cord Syndrome (4 marks)	Central Cord Syndrome	Anterior Cord Syndrome	Posterior Cord Syndrome	Brown-Séquard syndrome
Affected spinal tracts (4 marks)	Bilateral central corticospinal and lateral spinothalamic tract	Corticospinal & spinothalamic tract	Posterior column	Hemisection of the cord
Aetiology (4 marks)	Hyperextension Injury Spinal Stenosis Syringomyelia Tumour	Hyperflexion, Disc protrusion, Anterior spinal artery Syndrome, Trauma, Abscess, Tumour	Posterior spinal artery occlusion, Tumour, Spondylosis, Haematoma, Abscess, Syphilis, HIV, MS, Metabolic (Vit E, Copper deficiency)	Hemisection syndrome due to Penetrating Trauma/ Tumour/Abscess/MS



Clinical Presentation (4 marks)	Bilateral limb paresis Upper >> Lower limbs	Bilateral motor paralysis, loss of pain & temperature below the level of lesion	Ipsilateral loss of proprioception, vibration and touch below the level of lesion	Ipsilateral loss of proprioception, vibration & tactile discrimination below the level of lesion Contralateral loss of pain, & temperature 1 or 2 level below the lesion
Prognosis (4 marks)	Good	Poor	Lesion Dependent	Good

You decide to transfer the patient to a spinal centre, and while waiting for the ambulance for transfer his condition changes, he becomes clammy with

HR: 50

BP: 90/60

Temp: 38

Q4 - What is your provisional diagnosis and give 3 important features (4 marks)

Neurogenic Shock	Peripherally vasodilated
	Hypotensive
	Relative bradycardia

Q5 - Differentiate between Neurogenic and Spinal Shock (6 marks)

Spinal shock

Neurogenic Shock	Peripherally vasodilated
	Hypotension
	Relative bradycardia
Spinal Shock	Flaccid below the level of lesion / Loss of sensorimotor function
	Loss of distal and bulbocavernosus reflexes
	Priapism may be present