

Emergencies in Palliative Medicine

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Curriculum

5 emergencies

- Malignant spinal cord compression
- Superior Vena Cava Obstruction
- Hypercalcaemia
- Severe Haemorrhage
- Severe Distress

Learning Aim

To cover the five areas listed in the APM undergraduate curriculum

Learning outcomes

1. You will have a structured approach to considering medical emergencies
2. You will have an overview of how to approach the five emergencies in the curriculum
3. You will have sufficient facts to pass the exam

A medical emergency!

Approaches?

Severe haemorrhage

- Definition
 - A major haemorrhage from an artery / large vein which results in death due to rapid internal or external loss of circulating blood volume
 - Erosion of a vessel by cancer (e.g head and neck, bowel)
- Rare & unpredictable event
- Herald bleeds
- Risk factors
 - Tumour near blood vessel (Scans)
 - Herald bleeds/ pulsation under visible tumour
 - Infection/inflammation in tumour
 - Recent radiotherapy/chemotherapy
 - Clotting disorders/ Drugs

Severe haemorrhage

- Management
 - Dark-coloured towels
 - Administer an anxiolytic

- Anticipatory prescribing of anxiolytic
 - Midazolam 10mg sc/im/buccal/IV

Key points

- Uncommon
- Patient is dying
- Sedatives

Malignant hypercalcaemia

- Corrected Calcium > 2.6 mmol/L (Emergency >3)
- Occurs in 10–20% patients with cancer
- Up to 50% patients with breast and myeloma
- Common in:
 - Lung cancer (NSCLC), head and neck, kidney & cervix
- Malignant hypercalcaemia is associated with metastatic disease

Pathogenesis of hypercalcaemia

- Any type of cancer with or without skeletal metastases
- More than 80% of patients with malignant hypercalcaemia have skeletal metastases
- Common mediator is cancer-secreted parathyroid hormone-related protein (PTHrP)
 - Not detected by radio-immuno-assay for PTH
 - Stimulates osteoclastic bone resorption
 - Impairs calcium renal excretion
 - PTH levels low or undetectable

Clinical features of hypercalcaemia

- Severity of symptoms correlate with rate of increase in plasma calcium
- Mild Symptoms:
 - polyuria, polydipsia, fatigue, lethargy, mental dullness, anorexia, constipation
- Severe symptoms:
 - Nausea/vomiting (=> dehydration), ileus, delirium, drowsiness, coma
- If untreated, severe hypercalcaemia >4mmol/L is fatal

Management of hypercalcaemia

- Indications for treatment
 - Corrected calcium >2.8, symptomatic
 - First episode
- Fluid replacement
 - IV saline hydration (can need up to 6L in 24 hours)
 - Increased circulating volume promotes calciuresis
- Bisphosphonates
 - Inhibit osteoclast activity => inhibit bone resorption
 - Dose depending on eGFR and calcium level
 - **Zoledronic acid** 4mg IV over 15 minutes (less in renal failure)
 - Onset of effect <3 days – recheck bloods after 3 days.
 - Can be recurrent, if quickly recurs, bad prognostic sign
- Consider low-dose antipsychotic ie haloperidol 0.5-1mg

Key points

- Common (10 – 20%) cancer patients
- Treat > 2.8, urgent > 3. emergency >3.5, fatal >4
- Rehydrate – calciuresis
- Zoledronic Acid (Watch EGFR)
- PTHrP



Superior Vena Caval Obstruction

- SVCO is generally caused by extrinsic compression by metastases in the upper mediastinal lymph nodes
 - Intravascular extension or thrombosis may contribute
- Lung cancer is responsible for 80% of cases
- Occurs in about 15% of lung cancer patients [SCLC]
- Other cancers
 - Lymphoma, Breast & Testicular seminoma

Clinical features of SVCO

- Symptoms
 - dyspnoea
 - neck & facial swelling (worse morning)
 - trunk & arm swelling
 - sensation of choking
- Signs
 - thoracic vein distension
 - neck vein distension
 - facial oedema and plethora
 - tachypnoea



Management of SVCO

- High dose corticosteroids
 - Reduce peritumour oedema => reduce extrinsic compression
 - Dexamethasone 16mg IV stat then 8mg BD PO
- SVC Stent insertion for severe SVCO
 - Anticoagulate prior to insertion
- Radiotherapy to mediastinum [NSCLC]
- Chemotherapy [SCLC or Lymphoma]

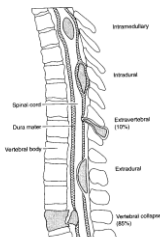
Key points

- Rare – most diagnosed scans
- Right sided tumour burden + / - Thrombus
- Steroids and stent

Malignant Spinal Cord Compression

- Compression of the dural sac and its contents (spinal cord and/or cauda equina) by an extradural tumour mass (80%)
- Compression from a tumour within the spinal canal
- Common – in 3-5% of cancer patients. 10% of patients with spinal mets will have MSCC
- Common cancers – Myeloma, prostate, breast, bronchus.

Mechanisms of SCC in cancer



Pathogenesis of SCC

Compression leads sequentially to:

- Venous stasis → venous hypertension
- White matter (axonal) vasogenic oedema
- Decreased spinal cord blood flow
→ ischaemia
→ infarction

Clinical features of SCC

- Pain > 90%
 - Generally predates other symptoms by weeks or months
 - Radicular 'band like' pain
 - Exacerbated by neck extension / coughing
- Weakness > 75%
 - 2/3 of these are unable to walk
- Sensory level >50% - above L1 (where spinal cord ends) – BUT can be vague sensory symptoms
- Bladder dysfunction > 40% (loss of sphincter function bad prognostic sign).

Red flag symptoms

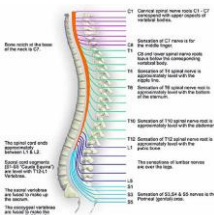
- Pain on coughing, sneezing, straining
- Lhermitte's sign (Barber's chair)
- Sudden loss mobility / bladder function

Examination

Neural symptoms and signs of SCC

- Acute onset – pain often predates weakness, flaccid paralysis / paraparesis
- Progressing over time to spasticity
- Plantars upgoing (except cauda equina syndrome – below L1 – lower motor neurone picture)
- Sensory loss with well-defined dermatomal level

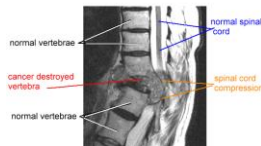
Cauda equina syndrome



- Spinal Cord ends approx L1 – L2
- Cauda equina syndrome
 - Asymmetrical weakness
 - Saddle anaesthesia
 - Sphincter disturbance

Investigations

- MRI Whole Spine
 - Confirm the clinical diagnosis
 - Exclude multiple levels of SCC
- CT if MRI contraindicated
- Assess stability of spine – SINS – Spinal Instability Neoplastic Score (location, pain, bone lesion, alignment, collapse, involvement of spinal elements)



Another image

- Pathological fracture
 - T5 vertebral collapse with retropulsion resulting in SCC
- T12 metastatic disease



Management

- **Emergency** – have high level of suspicion if complaining of back pain, trouble walking and incontinent.
 - Neurological function at diagnosis predicts future recovery, don't wait for classical signs, better to treat as such and then investigate...
- Corticosteroids - high dose, 16mg Dexamethasone – give immediately while waiting for MRI
- Urgent oncological assessment
 - o Surgical Decompression?
 - o Urgent radiotherapy?

Surgery for malignant SCC

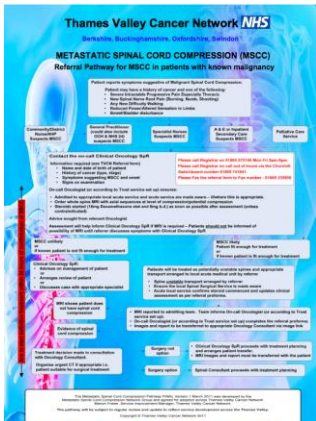
- Provides immediate relief of compression and mechanical stabilisation of an unstable spine
- In patients with recent deterioration in mobility surgery has superior outcomes compared to those treated with radiotherapy (DXT) alone
- Possible indications for surgery
 - Solitary lesion
 - Radioresistant (melanoma/ sarcoma) or radiotherapy has been ineffective
 - Unstable spine
 - Compression from intraspinal fragments or a collapsed vertebra
 - To obtain histology

Radiotherapy

- Indications for DXT
 - Radiosensitive tumour
 - Multiple levels of compression
 - Unfit for major surgery
 - Patient choice

Management after definitive treatment

- Multidisciplinary care
 - Rehabilitation
 - Pressure area care
 - Bladder & bowel management
 - Psychological support
- Prognosis
 - If no recovery in mobility after treatment median survival 1-3 months
 - If able to walk after treatment median survival 5-8 months



Key points

- Common 3 – 5%
- Red flag symptoms – cervical risk
- Need MRI
- Neuro exam is to document baseline NOT make a diagnosis
- Feed in to MSCC pathway locally

Severe distress

- Is this delirium?
- Is this fear?

- Calm, consistent staffing approach
- Anxiolytic +/- Antipsychotic
