Palliative Care Emergencies

Dr. T. Thirukkumaran
Palliative Care Services
Northwest Tasmania
What are the emergencies in Palliative Medicine?
Palliative Emergencies

(a) Disease related or Symptom related issues
1. Spinal cord Compression
2. Superior vena cava Obstruction
3. Hypercalcaemia
4. Acute Bleed
5. Pain Crisis
6. Stridor
7. Fitting at end of life

(b) Communication Emergencies
Malignant Spinal cord Compression
Background Statistics of SCC

Incidence of SCC

- Vertebral body metastases – 85%
- Para-vertebral (Lymphoma) mass – 10%
- Intra-medullary mass – 4%
- Haematogenous spread – 1%

Site of Malignant Spinal cord Compression

- Cervical level – 10%
- Thoracic level – 70%
- Lumbo-Sacral Level – 20%

More than one level – 20%
Some more Statistics of SCC

► 3-5 % of the patient’s with cancer have vertebral metastases

► 10 % of patient’s with skeletal metastases develop MSCC.

► 60 % of all the cases of MSCC from Breast Lung & Prostate Cancers.

► In 0.23 % of the patient’s MSCC will be their presenting feature.

► 8% 2ry to Myeloma.

► Median survival of patient with MSCC is 2-3 months ;
  17% alive at 1 year & 10% at 18 months.
Metastatic Spinal cord Compression

Magnetic resonance image

Diagrammatic illustration
The pathophysiological pathway of SCC development in cancer patients

- Posterior extension of vertebral body
- Anterior extension of tumor mass
- Pathological vertebral body fracture
- Invading of tumor through vertebral foramen
- Embolization of blood vessels by cancer cells

- Physical compression
- Spinal cord hypoxia

- White matter oedema
- Axon swelling

- Necrosis and gliosis of spinal cord
Symptoms & Signs of MSCC

- Back pain – 90% usually progressive, unremitting & keep the patient awake at night
  Radicular Pain (“band of pain encircling the body”) and it is commonly made worse by coughing / sneezing
- Leg weakness
- Brisk or absent reflexes
- Numbness or a Sensory Level, or both
- Sphincter disturbances (Peri-anal numbness & lack of anal tone)
- Urinary Symptoms (retention / incontinence / hesitancy)
- Bowel symptoms (constipation or incontinence)
- Tenderness over the affected vertebrae

Note: Clinical signs can be subtle in the early stages

=> Need to have high index of suspicion
Clinical Examination Findings

• Localised spinal tenderness

• Cervical spinal lesion:
  ~ Lhermitte’s sign: Neck flexion causes ‘electric shocks’ in trunk/limbs
  ~ Hoffman’s reflex: Brief flexion of Thumb & index-finger on flicking the middle finger’s pulp (if above C5)

• Spastic weakness below sensory level
  ~ Exaggerated reflexes
  ~ Up-going planter responses

• Cauda-equina lesion (Below L1 Level)
  ~ Flaccid weakness
  ~ Saddle hypoesthesia
  ~ Sphincter weakness

• Conus Muddllaris Lesion
  ~ Acute urinary & faecal retention
Management

- MSCC is usually associated with inadequate control of primary tumour

- Goal of the treatment is PALLIATIVE & directed at:
  1. maintain ambulation
  2. decreasing tumour bulk
  3. relieving the pain

- Options include:
  1. **Symptomatic Rx only** (if the patient is in Terminal Care or too unwell for radiotherapy)
  2. **Radiation** (if Tumour is radiosensitive & stable spine, ? Multiple levels)
  3. **Neuro-surgery** (if spine is unstable from single fracture/compression or previous irradiation)
  4. **Chemotherapy** (if Tumour is particularly responsive to chemotherapy)
Investigation of MSCC

• Whole Spine MRI Gold Standard for diagnosis & treatment planning

• MRI (Li et al.) 4 ~ Sensitivity 93 %
  ~ Specificity 97 %

• CT myelography if MRI contra-indicated
  (Permanent Pacemaker & Metal work in the spine)
Management

- **Symptomatic Management:**
  1. Pain control
  2. Nurse flat
  3. Management of constipation
     (Reasons: 2ry to autonomic dysfunction, inactivity & opioids)
  4. Spinal braces for patients with spinal instability
  5. Occupational Therapy
  6. Physiotherapy
  7. Psychological support

- **Corticosteroids:** Dexamethasone 16mg /day to prevent further damage

- **Palliative Radiotherapy**

- **For selected patients - Emergency decompression surgery**
Superior vena cava Obstruction
SVCO

- Commonly associated with bronchial primary (65-80%), Lymphomas (10-15%) or metastatic disease (3-13%) or it may be a presentation of a new primary...

Obstruction or Thrombus → SVCO

- Symptoms:
  1. Facial Oedema & Congestion
  2. Blurred Vision & Headache (due to venous engorgement & possible cerebral oedema)
  3. Lymphoedema & Chest Congestion
  4. Shortness of Breath (due to Laryngeal Oedema or tracheal / bronchial compression)
  5. Stridor

- Signs:
  1. Engorged Conjunctivae & Peri-obital oedema (Papilledema is a late feature)
  2. Rapid Breathing & Cyanosis
  3. Non pulsatile & dilated neck veins
  4. Dilated collateral veins in arms & chest
SVCO

- **Investigations:**
  1. Routine including a Chest X-ray: If no lesions → Consider venogram
  2. Chest CT Scan: Give distinction between thrombus & Obstruction
     (Further discussion with interventional Radiologist!!!)

- **Treatment:**
  1. High dose Dexamethasone (8 mg po BD) if moderate symptoms & known primary
  2. Anticoagulation
  3. Consider Stent
  4. Radiotherapy
  5. Low dose Opioids & Benzodiazepines for SOB / Anxiety
Hypercalcaemia
Hypercalcaemia-1

- **Hypercalcaemic Symptoms:**
  - Nausea/Vomiting; Thirst & Polyuria; Pain/Discomfort; Constipation, fatigue
  - **In Severe cases:** Gross Dehydration; Confusion/Agitation; Drowsiness.

- **What happen with high Calcium?**
  Patient is……….. Dehydrated & Sodium depleted

- **Treatment:**
  - **Hydration**
    - *By Giving Normal saline*
      - (a) Replaces the sodium
      - (b) Increases the GFR & circulating volume
      - (c) Promotes urinary calcium excretion

  - **Use of Bisphosphonates**
    - Zolendronic acid 4mg / 5ml in 50ml N.saline over 15 mins or
    - Sodium Pamidronate in 500ml N.saline over 90mins infusion

  - **Dose depending on the severity & what we do at hospice, UK:**
    - **Corrected calcium (If no RF)**
      - > 3.5  =>  90 mg
      - 3 – 3.5  =>  60mg
      - < 3 but Hypercalcaemic symptoms  =>  30-60 mg
Hypercalcaemia-2

- **Zolendronic acid v Pamidronate**
  - Dearer Vs Cheaper
  - 15 mins Vs 90mins
  - RCT corrected calcium <2.7 by 10th day is: 88% (Zolendronic) Vs 70% (Pamidronate)

- Remember the “5 B”s with High Calcium!
  - Bronchus, Breast, Prostate, Thyroid & Kidney cancers leads to Bony Mets!

- **Side effects of Rx:** Renal failure / flare / “flu” /
  - Osteonecrosis jaw / Hypocalcaemia

- **Formula to Calculate Corrected Calcium** (if you know the Serum Albumin level & it is above 20)
  
  \[
  \text{Corrected Calcium} = \text{Measured Calcium} + (40 - \text{Albumin}) \times 0.02
  \]
Acute Bleed
Types of Acute Bleeding in Palliative care set-up

- External bleeds from the fungating cancer wounds
  Management: (a) Place of care
               (b) Use of crisis pack
               (c) Adrenaline / tranexamic acid top
               (d) Application of Pressure – towels
               (e) Communication with patient /family

- Internal bleeds into the chest/ abdomen /pelvis or bleed from cerebral mets
  Management: (a) Midazolam inj 5-10mg stat to calm the patient
               (b) Aim to reduce the anxiety / agitation
               (c) Communication with family
Pain Crisis
Pain Crisis is an Emergency!

- **Pain assessment** – Detail history?; appropriate examinations, exclude SCC & other emergencies
  - # Pain type (Bone pain/ nerve pain / smooth muscle pain)
  - # Reversible causes (recent bloods give more info!)
  - # Possible reasons from the cancer origin / secondary
  - # ‘Total Pain’

- Check the possibilities for the failure of current Rx

- If you are not sure - Multifactorial approach!

- Regular / repeated assessment

- Pain Crisis is an emergency but rarely a ‘quick fix’
Stridor
Stridor

- Commonly, this may be the 1st presentation of a bronchial tumour, Lymphoma or a thyroid Carcinoma.

- Ideally tissue biopsy is required prior to commencing any form of treatment; however, there are situations whereby treatment MUST be initiated to stabilise the patient prior to any investigations carried out.

- Diagnosis: History, Examination & Routine investigations
  [FBC / U&Es / LFTs / TFTs / Calcium / ESR / CRP / CXR]

- Management:
  1. High Dose Steroids – dexamethasone 8mg po BD
  2. Helium mixed Oxygen

Decreases the amount of pressure needed to move gas through the airways. Therefore, the use of helium-oxygen mixtures is to treat an acute airway obstruction that causes dramatic increases in the work of breathing

- Oncology referral (4) If Severe, organise Radiotherapy – ASAP
  5. Obtain tissue diagnosis
  6. Rarely need a tracheal stent
Fitting / Status Epilepticus
@ End of life!
Who usually get fits @ end of life care?
# Brain Tumour / Mets
# Metabolic disturbances

Treatment
# 1st line – Sodium Valproate } Prophylaxis
# 2nd line – Carbamazepine

Fits in spite of adjusting anti-epileptics or unable take by mouth:
1st line → Midazolam inj 5-10mg stat & start S/driver
   20-30mg over 24 hours
2nd line → Phenobarbital infusion
Communication
Emergencies
Belief me!
This is the common Emergency to us!!!

- The **Natural history of cancer illness or other life limiting diagnosis**……

- **Selective perception** by the patients with the shocking news!

- **No more treatment**

- **Poor prognosis** discussion

- Patient / family request of **“Not to tell ……”**
References:

- Rowell NP, Gleeson FV. Steroids, radiotherapy, chemotherapy and stents for superior vena caval obstruction in carcinoma of the bronchus (Cochrane Review) *The Cochrane Library* Issue 1; 2002
Any Questions?
THANK YOU!