

Care Management Guidelines Emergencies in Palliative Care

Emergencies in Palliative Care

Introduction

- In most medical specialties, emergencies are those situations, which, if left untreated, will immediately threaten life. In Palliative Care where death is an expected outcome, emergencies are those conditions which if left untreated will seriously threaten the quality of life remaining, and prolongation of life is not usually a realistic aim.
- Emergency situations need to be managed in light of:
 - the wishes of the patient and their carers
 - the nature of the emergency situation
 - the general physical condition of the patient
 - the stage of disease and prognosis
 - other co-morbidities and symptoms
 - the likely effectiveness and toxicity of available treatments
- Questions to consider when faced with emergencies in patients with advanced disease:
 - what is the problem?
 - can it be reversed?
 - should it always be reversed? eg it may not be appropriate to treat Hypercalcaemia in the last hours or days of life, but symptoms can be managed.
- Two tiered decision-making process:
 - firstly, what is the best technical solution to the problem,
 - secondly, is it appropriate for this patient at this time, and does the patient or person responsible agree?
- It is important not to dismiss an intervention solely in the basis of perceived prognosis. For example, internal fixation of a pathological fracture may be advisable for a patient with only weeks to live as it is so hard to control pain with an unstable fracture.
- Emergency situations seldom arise unexpectedly. It is therefore possible and important to:
 - have a high index of diagnostic suspicion
 - have a plan in place that either prevents them, or institutes prompt intervention.
 - share this plan with patient and family
- The most common emergencies in Palliative Care are:
 - Spinal Cord Compression
 - Haemorrhage
 - Superior Vena Cava Obstruction
 - Hypercalcaemia
 - Airway obstruction or severe SOB
 - Pain crisis or other unrelieved symptoms
 - Seizures

Spinal Cord Compression

- Spinal cord compression will eventually result in paraplegia or quadriplegia if not treated.

Essential Questions

- **Does this patient have a reasonable likelihood of having spinal cord compression?**
- **Would this patient benefit from instituting emergency investigation and treatment?**

- Neurological function at the commencement of treatment is the most important factor influencing outcome.
- Neurological symptoms can be reversible if treatment is started within 24-48 hours of the onset of symptoms
- Neurological signs are variable and may be:
 - upper motor neurone or lower motor neurone
 - minor sensory changes to demarcated sensory loss (a sensory level is NOT necessary for diagnosis)
 - asymmetrical

Incidence and Pathology

- Up to 5% of patients with cancer.
- Commonly extra-dural compression.
- 85% as a result of extension of vertebral body metastases into the epidural space.
- Incidence of level of compression:
 - 10% cervical
 - 70% thoracic
 - 20% lumbosacral
- More than one level can be involved.

Symptoms and Signs

- **Back pain:**
 - Is the most common symptom, but compression can occur without pain in some 4-17% of patients.
 - It can predate sensory changes by weeks or months, often with symptoms of nerve root irritation.
 - Beware escalation of previously stable back pain.
 - Patients frequently describe a band of pain encircling the body and it is commonly made worse by coughing or straining.
 - The pain is often difficult to manage with opioids dose escalation alone, and may also be positional.
- **Stiffness and weakness:**
 - Often stiffness develops before weakness.
- **Tingling and numbness:**
 - Usually rapidly developing from the feet upwards (Investigate immediately).

- **Urinary Symptoms:**
 - These are **late** symptoms with retention and/or incontinence often preceded by a degree of urinary frequency.
- **Peri-anal numbness and lack of anal tone:**
 - Are **late** symptoms.
- Sensation of walking on uneven ground

Diagnosis and Investigation

- Don't wait for sensory or motor loss to develop. The symptoms and signs can be "soft".
- A high index of suspicion
- History and neurological examination
- Examination: the presence of sensory loss and brisk or absent reflexes (often people complain of needing to feel where their feet are- a walking on eggshells feeling)
- Examination: the presence of motor weakness (unexplained clumsiness, or foot dragging may be the first signs)
- **MRT** (Magnetic Resonance Imaging): this is the **GOLD STANDARD** investigation as it can show the whole spine and is non-invasive.

Note: *In most Hospitals and under current Health Insurance Commission rules, access to MRI scanning is restricted to Specialist Medical Practitioners so communication is essential*

Management Pathway

- Once diagnosis is suspected or made:
 - Definitive decompression treatment must occur within a few hours
 - Give dexamethasone 8mg stat systemically, and continue at rate of 16mg per day mane in divided doses.
 - Contact duty radiation oncologist to arrange urgent MRI investigation and interdisciplinary management

Treatment Pathway

- Depends on health status of individual.
- Interdisciplinary approach involving radiologists, oncologists, neurosurgeons and allied health.

Treatment Options

- **Radiation therapy only:** this usually applies in most situations where the tumour is radio-responsive and the spine is stable
- **Surgery and radiotherapy:**
 - where the spine is unstable, from a fracture or compression;
 - where there is a need for a tissue diagnosis;
 - for acute and rapidly progressive symptoms and signs in an otherwise functional patient.
- **Surgery only:** where there is relapse at a previously irradiated area or there is progression of symptoms during a course of radiotherapy.

- **Chemotherapy:** in tumours that are particularly responsive to chemotherapy (e.g. certain paediatric tumours); adjuvant treatment for adult tumours responsive to chemotherapy.
- **Corticosteroids alone:** final stages of terminal illness and the patient is either too unwell to have radiotherapy or unlikely to live long enough to receive any benefits from treatment.

Outcomes of Treatment

- 70% of patients who were ambulant at the time of diagnosis will regain the ability to walk.
- 30% of patients with paraparesis will regain the ability to walk.
- 5% of patients with established paraplegia will regain the ability to walk.

Hypercalcaemia

- Hypercalcaemia is the presence of abnormally high levels of calcium in the blood.

Key Messages

- It is the most common life threatening metabolic disorder in patients with malignancy.
- Symptoms are often proportional to the rate of development of elevated serum calcium levels ie a slow rise may be accommodated.
- Treatment is only necessary if symptoms of hypercalcaemia are causing distress or have done so in the past, and there is a good prospect of response.
- Treatment may be inappropriate if the patient is near to death.

Incidence and Pathology

- Occurs in about 20- 30% of patients with malignancy.
- Variable incidence with type of malignancy.
- Multiple myeloma and breast cancer 40-50% of incidence; less common with non-small cell lung cancer and rare in small cell lung cancer and colorectal cancer.
- Paraneoplastic syndrome mediated by factors such as tumour secreted parathyroid related protein, the inflammatory action of prostaglandins and local interactions by other by-products of inflammation, interleukin 1 and tumour necrosis factor.
- Bone metastases are common but are not always present.
- A rise of corrected serum calcium to more than 2.6 mmol/l is diagnostic.
- Depending on the rate of rise, generally symptoms are not troublesome till over 3.0 mmol/l.
- 80% of patients with malignant hypercalcaemia survive less than a year.

Symptoms and Signs

- Mild hypercalcaemia < 3.0mmol/l is usually asymptomatic and treatment is not required.
- The symptoms of hypercalcaemia, if present, are often distressing to the patient and carers.
- Treatment can dramatically improve quality of life even when life expectancy is limited.
- Changes are often subtle and diagnosis can often be delayed.

Mild Symptoms

- Nausea
- Anorexia and vomiting
- Constipation
- Thirst and polyuria

Severe Symptoms and Signs

- Gross dehydration
- Drowsiness
- Confusion and coma
- Abnormal neurology
- Cardiac arrhythmias (leading to death)

Diagnosis and Investigation

- The diagnosis is usually by asking for corrected serum calcium to be done. The formula for this is:
 - Corrected Calcium = Measured Calcium + $(40 - \text{Albumin}) \times 0.02$ gives the Calcium in m/mol/L. (Measured calcium can be increased by having the tourniquet on for too long before the blood is sampled)
- **As in most areas of clinical practice, an index of suspicion is necessary.**

HINT: It is always wise to ask for corrected serum calcium to be done on any patient being investigated for delirium. The normal range for Calcium is between 2.10 – 2.55 m/mol/L. Clinical judgment is required to decide whether to treat or not.

Management of Hypercalcaemia

- If a decision is made to treat the hypercalcaemia then it is essential to:
 - Re-hydrate with intravenous fluids (0.9% Saline)
 - Amount of fluid and rate given depends on the clinical and cardiovascular status of the patient as well as the concentrations of urea and electrolytes
 - Once patient is re-hydrated then give bisphosphonate infusion
 - Disodium Pamidronate (Ariedia®) 60 to 90mg over 2 hours according to the manufacturers recommendation regards dilution (lower doses and slower infusion may be necessary in renal disease)
 - Zoledronic acid (Zometta®) 4 to 8mg over 15 minutes according to the manufacturers recommendation regards dilution (lower doses and slower infusion may be necessary in renal disease)
- Prevent recurrence of symptoms by:
 - Treating underlying malignancy if possible
 - Maintenance treatment with bisphosphonates
 - Monitor serum calcium every three weeks and treat as appropriate

NOTE:

Following a bisphosphonate infusion the serum calcium will fluctuate (up and down) and a reliable reading cannot be relied on in less than 48 hours.

Failure to rehydrate prior to use of bisphosphonates can lead to renal failure due to deposition of calcium complexes in the kidney (TG p 292)

- Osteonecrosis of the Jaw is a recognised complication and if regular infusions are necessary Dental advice re oral hygiene needs to be sought. Also patients need to be warned not to have tooth extraction without informing their dentist they are on Bisphosphonates

Treatment Options

- Intravenous bisphosphonates have revolutionized the management of malignant hypercalcaemia to the extent they are now considered first line agents. Corticosteroids are probably useful in the management of tumours which are responsive to their cytostatic effects (myeloma, lymphoma and some breast cancers). The use of mithramycin or calcitonin is no longer necessary to any extent.
- Some symptoms, particularly confusion, may lag behind the normalisation of the calcium levels. Hypocalcaemia is a side effect to be considered and occasionally patients complain of jaw pain due to osteonecrosis of the bone.[1]
- Oral bisphosphonates, Sodium Clodronate (Bonefos®) are available but are considered more suitable for maintenance therapy and have the disadvantage of being poorly absorbed[2], a recent systematic review[3] shows the intravenous route is more reliable.

Outcomes of Treatment

- Treatment with bisphosphonates intravenously lowers the serum calcium to normal levels within a week in 80% of cases.
- Raised serum calcium is of itself not an indication to treat, particularly in the terminal phase where treatment can impose unnecessary burden instead of benefit. If the decision is made by the patient not to have treatment or it is deemed inappropriate to treat, the symptoms should be managed appropriately through the terminal phase of illness.



Superior Vena Cava Obstruction

- Superior Vena Cava Obstruction (SVCO) is a condition where the return of blood from the upper body to the heart is impeded, resulting in severe upper body congestion.
- The advent of modern chemotherapy and radiotherapy techniques has made this entity into a more manageable condition. If it is the first presentation of a cancer it represents a picture of very poor prognosis unless the underlying cancer is sensitive to cancer therapy.

Incidence and Pathology

- SVCO most often occurs as extrinsic pressure from tumours in the mediastinum, though a small number occur due to intra-luminal thrombus or direct invasion of the vessel wall.
 - 65-80% are due to carcinoma of the bronchus:
 - 3% of patients with carcinoma of the bronchus will develop an SVCO
 - 10 – 15% are due to lymphomas:
 - 8% of patients with lymphoma will develop SVCO
 - 3-13% are due to other cancers
 - Benign causes (now rare) occur including goiter, aortic aneurysms, thrombotic syndromes and the use of intravascular devices.
- If SVCO is the presenting symptom, treatment/management may need to be tempered in order to obtain a tissue diagnosis so that treatment can be tailored to the underlying condition

Symptoms and Signs

- Symptoms are those of venous hypertension and include:
 - Breathlessness due to laryngeal oedema or tracheal or bronchial compression
 - Headache due to venous engorgement and possible cerebral oedema
 - Visual changes
 - Dizziness
 - Feeling of pressure in the head and face
- Signs include:
 - Rapid breathing
 - Engorged conjunctivae
 - Peri-orbital oedema
 - Cyanosis
 - Non pulsatile and dilated neck veins
 - Oedema of the hands and arms
 - Dilated collateral veins in arms and chest
 - Papilloedema is a late feature

Diagnosis and Investigation

- Generally in the setting of palliative care the diagnosis is known.
- Confirmation of diagnosis is generally done by CT scan.

- A tissue diagnosis for histology (if not already known) can be done by image guided needle biopsy

Management

- Immediate relief of symptoms such as dyspnoea and anxiety through pharmacological, practical and psychological methods is necessary. Opioids and possibly benzodiazepines are indicated.
- Referral to an oncology centre for assessment of appropriate treatment, radiotherapy or chemotherapy (as appropriate to the tumour).
- Initiation of high dose steroids – 16mg per day of Dexamethasone initially for 5 days and then stopping if not effective or gradually tailing off if effective or as other treatments take effect.
- Stenting of the Superior Vena Cava with or without thrombolysis should be considered.

Outcomes of Treatment

- The outcome of SVCO needs to be considered along with the history of the underlying cancer; however, as a prognostic indicator up to 17% of patients will survive for a year. Treatment will provide effective palliation of symptoms in more than 60% of patients with a median duration of three months.

Haemorrhage

- Haemorrhage as a result of advanced cancer is self evidently highly distressing for the patient, carers and staff.
- Severe acute haemorrhage as a terminal event is relatively rare although the conditions that can lead to it are relatively common.
- Minor self limiting episodes of bleeding may precede an acute event.
- Clinically significant bleeding occurs in 6% to 10% of patients with advanced cancer. 3% of lung cancer patients have terminal massive haemoptysis (Prommer 2005).
- It is important to plan and anticipate the probability of haemorrhage and have a strategy for dealing with it that is communicated early and people are comfortable with.
- **If a patient is having a severe acute haemorrhage they should not be left alone.**

Causes

- Tumour related:
 - Head and neck cancers: malignant neck ulceration leading to erosion of a major artery
 - Lung Cancers: haemoptysis
 - Gastrointestinal: haematemesis, malaena
 - Urological: haematuria, clot retention
- Clotting failure, usually from nose or urinary tract:
 - Marrow failure
 - Thrombo-embolic phenomena including DIC
 - Complications of anticoagulation
- Treatment related:
 - Mucosal damage from NSAIDs and steroids
 - Chemotherapy induced thrombocytopenia

Preparation

- Smaller, self limiting (and therefore non fatal) haemorrhage can be managed as follows:
- First aid aimed at arresting haemorrhage:
 - Pressure dressings
 - Adrenalin 1:1000 soaked dressings can also be used topically
- Prevention of recurrence:
 - Radiotherapy
 - Interventional Radiological thrombo-embolic techniques
 - Tranexamic acid 1gm three times a day can often be useful, though care needs to be taken in the presence of urinary tract bleeding where clotting and ureteric obstruction could be precipitated.
 - Tranexamic acid can be made by a pharmacist into a liquid to be used as a topical agent on persistently oozing lesions.

- Persistently oozing gastric mucosa: the combination of Sucralfate combined with a proton pump inhibitor can often be effective. +/- octreotide

Crisis Orders

- When bleeding is prolonged or severe, and death is inevitable, it is wise to have a CRISIS order for sedation readily available to allow the patient to be unaware of the anxiety and distress that the symptoms of rapidly developing shock produce.
- Medication will need to be given by intramuscular or intravenous route as subcutaneous medications may not be absorbed due to the nature of peripheral shutdown in shock.
- If a patient is opioid naïve:
 - 10mg of Morphine together with a sedative drug Midazolam 10mg or Clonazepam 1.0mg will usually be sufficient initially and can be repeated if necessary. (@10 min intervals until distress is relieved).
- If the patient is already on opioids:
 - an opioid dose double the usual breakthrough dose together with a sedative drug is appropriate (as above).

Family and Patient

- There is a need to balance the prospect of engendering anxiety and alarm in the patient and carer by preparing them for the event, against the anxiety caused by being prepared and waiting for the inevitable.
- Explain to family and staff (and the patient) that the purpose of a crisis order is to give sufficient rapidly acting medication to deeply sedate the patient and prevent distress while dying - it is not designed to terminate the life of the patient.
- Careful discussion needs to be had with family and carers if the medication is left in the home and there is a possibility that family members may need to administer it.
- Have the medications drawn up ready for use if haemorrhage is expected.

Practical Considerations

- Dark coloured towels on hand, bowls
- Facecloths
- Comfort
- Keep warm
- Maintain airway with positioning

Contact details

Palliative Care South

Phone: 03 6166 2820 or

pc.south@ths.tas.gov.au

Palliative Care North

Phone: 03 6777 4544 or

palliativecare.north@ths.tas.gov.au

Palliative Care North West

Phone: 03 6440 7111 or

palliativecareservicenw@ths.tas.gov.au

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