Emergencies in palliative care

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Introduction

Palliative care emergencies are situations and/or conditions during which the life and the quality of life (QoL) of a patient with an incurable disease are threatened. This review will focus on specific physical emergencies that are prevalent in cancer patients undergoing palliative care and that affect their QoL.

Pain

Pain is an unpleasant sensory and emotional experience associated with actual or potential tissue damage. Uncontrolled pain should be regarded as an emergency in palliative care patients since it has a profound impact on QoL.

The prevalence of chronic pain in palliative care cancer patients varies according to the type and stage of the disease. Besides chronic pain, 65–85% of cancer patients experience episodes of breakthrough (BT) pain, which is acute exacerbation of pain with a short duration (up to 60 min) of otherwise medically controlled pain.

Chronic pain is caused by two main physiological mechanisms: nociceptive pain is due to receptor activation by different stimuli transmitted by specific sensory nerves to the sensory cortex; neuropathic pain is due to nerve injury leading to modifications that make nerves more sensitive to stimuli or induce a permanent activation of higher nerves.

Pain should be evaluated routinely by validated instruments, such as a visual analogue scale or a numerical scale, while specific scales can be used to differentiate between nociceptive and neuropathic pain.

Symptomatic medical treatment of chronic or BT pain depends on the type and physiological mechanism and is treated by analgesics or co-analgesics.

- Chronic nociceptive pain is treated with analgesics according to the pain ladder of the World Health Organisation (WHO). Patients with mild pain are treated with non-opioids (e.g. paracetamol, non-steroidal anti-inflammatory drugs); those with moderate to severe pain with fast-acting opioids. Once the medication is started it should be given in a continuous way (by the clock) to prevent and control pain; by the easiest administration form (oral, rectal); and adapted to the individual patient. Adjuvant analgesics or co-analgesics can be combined with analgesics for better pain control.
- Chronic neuropathic pain can be treated with analgesics, although suboptimal pain control is observed in many patients. Other drugs that can be used are anti-epileptics, anti-depressants and local anaesthetics.
- BT pain should be prevented or treated immediately with fast- and short-acting opioids. The most frequently used agent is fentanyl.

At the end of life, difficulties in swallowing or decreased systemic circulation with changed absorption are observed. Therefore, parenteral administration of opioids may be indicated to control chronic or BT pain.

In the event of a severe increase in pain, an acute pain crisis may occur. This should be controlled by parenteral opioids. If the pain crisis is not controlled, midazolam in combination with opioids can be administered subcutaneously.

Acute dyspnoea

Dyspnoea is defined as an uncomfortable awareness of breathing and is a common symptom in palliative care patients. Acute dyspnoea is the most frequent reason for an emergency admission in palliative care and has a severe impact on the QoL.

The main causes are cardiovascular and pulmonary problems, acute anaemia, or psychological distress.

It can be associated with tachypnoea, use of accessory respiratory muscles, pallor, cyanosis, tachycardia, or inspiratory stridor.

The severity of the dyspnoea can only be scored by the patient, but on clinical examination signs of pleural

effusions, cardiac failure with increased central venous pressure or oedema can be detected.

The arterial oxygen concentration does not correlate with the severity of dyspnoea, but diagnoses hyperventilation or hypoxia. Other useful diagnostic tests are the haemoglobin level, D-dimers and a chest X-ray.

Patients with a specific diagnosis may benefit from a specific aetiological treatment.

Acute dyspnoea should be treated symptomatically with oxygen and medication.

- Oxygen is indicated in patients with hypoxia.
- Systemic opioids are effective, while nebulised opioids are not indicated. Benzodiazepines can be used in patients with anxiety disorders or in palliative sedation.

Major bleeding

Major bleeding may be caused by blood vessel, platelet or coagulation disorders. It occurs in up to 30% of patients with haematological malignancies, while in patients with solid tumours, it depends on the tumour location.

Bleeding due to thrombocytopenia ($<10\times10^9$/L) is prevented by platelet transfusions.

In patients with major bleeding, haemodynamic stabilisation and transfusion of fresh frozen plasma or platelets should be given as indicated. Local pressure, endoscopic haemostatic therapy, or angiographic embolisation can be used to control bleeding. In the event of a do-not-resuscitate directive, palliative sedation should be initiated.

Acute function loss

Acute loss of a function constitutes an emergency in palliative care patients. Acute loss of a voluntary or involuntary function impairs QoL. Immediate diagnosis and treatment are necessary for recovery of functionality.

Acute motor function loss

Acute motor function loss can be due to local factors, but is most commonly due to a lesion in the nervous system. Diagnosis is made by radiography and cerebrospinal fluid cytology.

Prevention of acute motor function loss is effected by preventive orthopaedic interventions or radiotherapy. In the event of motor function loss due to central nervous system lesions, high-dose corticosteroids are indicated.

Acute urinary retention

Acute urinary retention can be caused by outflow obstruction, neurological impairment, medication use, or psychological issues. There is an inability to pass urine, lower abdominal or supra-pubic discomfort, or confusion. Diagnosis is made by clinical examination. Acute urinary retention is treated with bladder decompression by urethral or supra-pubic catheterisation. In patients with renal function disturbances, increased diuresis after decompression can worsen renal function.

Acute bowel obstruction

Acute bowel obstruction is due to interruption of the normal intestinal flow and is caused by intra- or extraluminal processes or functional impairment of the gastrointestinal tract. Patients complain of abdominal distension, vomiting, abdominal cramps and pain, and the absence of flatus.

Diagnosis is made by clinical examination with high-pitched or hypoactive bowel sounds, while plain abdominal radiography shows air- and fluid-filled loops.

Aetiological treatment comprises bypass with a stent, while patients can be symptomatically treated with nasogastric tubing, corticosteroids and somatostatin analogues.

Central nervous system disturbances

Delirium

Delirium is an acute confusional state and is present in up to 85% of palliative care patients at the end of life. It is characterised by a fluctuating mental state, disorganised thinking and an abnormal state of arousal. Significant causes are medication, withdrawal, infections, metabolic disturbances, or hypoxia.

Aetiological factors are treated while symptomatic control is brought about with the use of neuroleptics and benzodiazepines.

Epileptic seizures

Epileptic seizures result from electrical hypersynchronisation of neuronal networks in the cerebral cortex and are seen in patients with brain metastases, primary brain tumours, cerebrovascular incidents, metabolic disorders, medication, or substance withdrawal.

Diagnosis is made by anamnesis, the clinical picture and electro-encephalography.

Acute treatment is with benzodiazepines. In the event of an epileptic state, phenytoin or phenobarbitone is indicated.

Refractory symptoms and palliative sedation

Refractory symptoms cannot be adequately controlled within an acceptable time period and without compromising consciousness in spite of every possible intervention. Dyspnoea and delirium are among the most common refractory symptoms in palliative care.

Treatment of refractory symptoms consists of palliative sedation, which is the intentional administration of sedative drugs to reduce the consciousness of a patient. Sedation is brought about by continuous administration of benzodiazepines or by anaesthetics. Pain medication is continued and a bladder catheter is placed. Prevention of complications is intensified and support for the family is expanded.

Planning for emergencies

Certain emergencies can be anticipated. They should be discussed with the patient and family, possible scenarios should be given, and advanced directives should be in place.

Further reading

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Conflict of interest statement

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