

Management of cancer pain in the elderly

The optimum management of pain in older patients with cancer requires comprehensive assessment, particularly as older people may under report pain. This article reviews the assessment and management of pain in older people with cancer.

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In the industrialised world, 70% of cancer related deaths occur in persons aged ≥ 65 years.¹ More than half of all patients with cancer are aged over 65 years, and patients aged over 75 years represent approximately half of the hospice population.² National statistics have indicated that pain or discomfort was reported by about half of those over 65 years old, and 56% of men and 65% of women aged 75 years and over.³

Pain in older patients with cancer is a common event, and many times it remains under-recognised and under-treated.⁴ Barriers to optimum management of cancer pain in older people include concerns, among both healthcare professionals and patients, about the use of medications, the atypical manifestations of pain and side effects related to opioids and other analgesics. Because of a belief that cancer is terminal and pain is expected, many physicians perceive pain management in the older person to be uninteresting and unrewarding. However, cancer is not always terminal and is not always painful.

The care of older patients with cancer experiencing pain should involve a comprehensive assessment, which includes evaluation for conditions that may exacerbate pain, emotional and spiritual distress, disability and comorbid conditions. Pain poses restrictions on an individual's activities of daily living (limiting functional ability), impairs quality of life and causes sensory and emotional distress.

Assessment of pain

Assessment and expression of pain in older people can be even more challenging in the presence of severe cognitive impairment, communication difficulties or language and cultural barriers. This calls for a holistic approach towards

pain assessment and use of appropriate assessment tools suitable for the individual.

The assessment in an older person should, therefore, include the medical history and tumour staging, physical examination, performance status (eg, Karnofsky Performance Scale)⁵, activities of daily living, evaluation of comorbid conditions, affective status (especially the presence of depression and/or anxiety), cognitive status (using the Mini-Mental State Examination [MMSE]) and evaluation for geriatric syndromes such as dementia, delirium, failure to thrive, neglect, abuse, falls, and incontinence.¹ Tables 1a, 1b, and 1c look at different methods of assessing pain in older people, including a summary of the joint British Geriatrics Society (BGS) and British Pain Society (BPS) guidelines³ on the assessment of pain in older people.

Pharmacological management

The WHO analgesic ladder⁶ describes the three-step treatment of persistent pain using drugs, and this is applicable equally to patients with or without severe cognitive impairment. The first step is non-opioids, the second step is mild opiates if pain persists or increases, and finally strong opioids are the third step if pain continues to increase or persist. Adjuvant drugs should be used, as necessary, to calm fears or anxiety.

The analgesic drugs are considered in two categories: (i) non-opioid analgesics, mainly non-steroidal anti-inflammatory drugs (NSAIDs) and paracetamol; and (ii) opioids. Careful evaluation of pain should include concurrent medications, comorbidity, characteristics of pain (such as causes, mechanisms and duration), response to previously prescribed analgesics, cancer staging and

Table 1a: BGS and BPS guidelines on the assessment of pain in older people³

- Pain awareness — older people are often reluctant to report pain and all health professionals should be alert to this
- Pain enquiry — use alternative words such as “sore”, “hurting”, “aching” etc.
- Pain description
 - a. Sensory dimension: the nature, location and intensity of pain
 - b. Affective dimension: the emotional component and response to pain
 - c. Impact on functioning at the level of activities and participation
 - d. Pain location — ask the patient to point to the area and use pain maps
 - e. Pain intensity — use the standardised intensity rating scale
 - f. Communication — particularly with those patients with sensory impairments
- Assessment in people with impaired cognition/communication. Different pain assessment scales should be used by skilled professionals. Observational assessment (Table 1c) will be needed in those with severe impairment
- Cause of pain — by examination and investigations
- Re-evaluation — Serial assessment should be undertaken using the same instrument to evaluate the effects of the treatment

Table 1b: Pain assessment tools

Numeric graphic rating scale	High validity and reliability in older people and can be used in older people with no significant cognitive/communication impairment
Verbal rating scale or numerical rating scale	High validity and reliability in older people and can be used in older people with mild/moderate cognitive impairment
Pain Thermometer	These can be used in older people with moderate-to-severe cognitive/communication impairment. They are easy to use, but their validity has not been fully evaluated
Coloured Visual Analogue Scale	
Abbey Pain Scale	This can be used in older people with severe cognitive/communication impairment. This is short and easy to use but requires more detailed evaluation
Brief Pain Inventory	This is a 15-item scale assessing: severity, impact on daily living, impact on mood and enjoyment of life. This multidimensional assessment is used in older people with minimal cognitive impairment

Table 1c: Pain behaviours in older patients with cognitive impairment

- Facial expressions — slight frown, sad, frightened face or rapid blinking
- Body movements — fidgeting, rocking, restricted movements or gait changes
- Verbalisations — grunting, groaning or verbally abusive
- Changes in activities, patterns or routines — refusing food, change in sleep patterns or increased wandering
- Changes in interpersonal interactions — aggressive, irritable, distressed or decreased social interactions

care setting. Elderly patients also need careful drug and dose adjustments according to the changing needs as assessed regularly.

Non-opioid analgesics

Paracetamol can be used alone or in combination with opioids. This is well tolerated and its metabolism is not affected by age. Larger doses over an extended period can cause hepatic and renal toxicity.

NSAIDs also have synergetic action with opioids.⁷ However their overall safety in frail elderly patients has been questioned.⁸ Adverse effects from NSAIDs include gastrointestinal toxicity (eg, bleeding and ulceration), renal toxicity and platelet aggregation inhibition. Therefore, elderly patients receiving long-term NSAID therapy should be regularly monitored for gastrointestinal blood loss, renal insufficiency and drug/drug interactions. Anti-bleeding prophylaxis should probably be considered in these patients.

Opioids

Opioids form the mainstay of cancer pain treatment. When pain is no longer controlled by non-opioids or if there are signs of toxicity from non-opioids, opioids should be started. The dose can be adjusted according to response and side effects. Opioid addiction is rare in older people as addiction is more of a behavioural issue. Contrary to previous belief, renal function rather than hepatic function is more likely to be impaired in older people.⁹ When using opioids, it is important not to overlook provision for breakthrough pain by regular review of the doses and addressing breakthrough pain relief. Many opioids must be given every two to three hours, although longer acting formulations are available.

Codeine and tramadol are weaker opioids and are used for moderate cancer pain in older people. As they are combined with non-opioids and have dose-limiting adverse effects, their use is restricted only to moderate cancer pain. Codeine acts through its conversion to morphine, but the yield of morphine is relatively small.¹⁰ This is again converted into morphine metabolites, which can accumulate in renal failure.

Tramadol is 80% metabolised in liver, and 90% of this metabolite is excreted by kidneys. Impaired hepatic or renal function increases the elimination half life of tramadol to two fold, so administration of tramadol in such patients requires increased dosage intervals.¹¹ Propoxyphene is another weak opioid, but it is not recommended in elderly cancer patients because of its long half life and toxicity.

Stronger opioids for cancer pain in the elderly include

morphine, oxycodone, buprenorphine and fentanyl. The selection depends on the desired duration of action, preferred route of administration, adverse effects and response to therapy. In elderly patients, stronger opioids should be started for severe pain, but in a low dose and titrated slowly.¹² The tendency to avoid upwards titration because of concern about side effects often results in suboptimal treatment and needs to be avoided.

Morphine is still the mainstay for cancer pain relief and it is available in oral, sublingual, rectal and parenteral forms. Morphine, even in small doses given for prolonged periods, can cause adverse effects even in those elderly patients with unrecognised limitations of functional renal activity. So morphine should be used with extreme caution in patients with renal impairment. At the same time, there should be a high index of suspicion of morphine overdose even if it likely to be accidental.

Oxycodone is a semi-synthetic opioid receptor agonist and can be used as a second-line therapy alternative to morphine. The pharmacokinetics of this opioid is mostly independent of age, renal function and serum albumin concentration, though clearance of drug may be affected by hepatic and renal function. Oxycodone is considered a good treatment option for older people.⁹

Transdermal opioid preparations

Fentanyl and buprenorphine are available in transdermal preparations for patients with stable pain, those with compliance problems and those who can not take medications orally. Fentanyl patches can be an alternative to morphine in older patients with reduced renal clearance in whom it might be better tolerated because of lack of accumulation of metabolites.⁹ Buprenorphine has similar analgesic efficacy to that of morphine¹³ and is safer in patients with renal impairment as its pharmacokinetics change little in patients with renal failure.⁹

Adjuvant analgesics

Adjuvant analgesics that can be used for specific types of chronic pain include antidepressants, corticosteroids, bisphosphonates and some sedatives. However, their use is not as necessary for pain management in older patients with cancer as it is in pain management in older patients without cancer.¹⁰

Selective Serotonin Reuptake Inhibitors (SSRIs), some anti-epileptic medications and tricyclic antidepressants (TCAs) have also been used, but their role in cancer pain in older people has been rather limited because of concern

Key points

- Pain is not always present in cancer
- Palliative care does not equate to terminal care
- People with cancer may live a long time — pain control is therefore important
- Older people need careful assessment using appropriate tools
- Referral option of specialist/palliative pain clinics should not be forgotten.

about potential side effects.

Agents that are primarily used for neuropathic pain have also been tried for cancer pain. These include carbamazepine, amitriptyline, gabapentin and pregabalin. As gabapentin and pregabalin have fewer side effects, they are more favoured in elderly cancer patients especially for neuropathic pain following radiotherapy or chemotherapy. The half life of gabapentin may be prolonged beyond 24 hours in elderly people¹⁴ and this has the potential to enhance the analgesic effects of morphine.¹⁵

Corticosteroids are useful for symptom relief in specific circumstances such as brain metastasis, bowel obstruction, compressive neuropathies and visceral infiltration. However, benefits from steroids should be balanced against potential side effects, and the dose should be tapered to the minimal possible dose for shorter duration.

Bisphosphonates are useful in relieving pain of hypercalcaemia from bone metastasis.¹⁶ Patients should be well hydrated to minimise nephrotoxicity and other complications include fever, myalgia and osteonecrosis of jaw.¹⁶ Pamidronate is a particularly preferred bisphosphonate for pain due to hypercalcaemia of malignancy, as it is probably the most effective as per the British National Formulary Sept 2010.¹⁷

Non-pharmacological management¹⁸

In a multidisciplinary approach, pharmacological measures need to be combined with non-pharmacological measures.¹⁹ Some non-pharmacological treatments that have been tried

for cancer pain in older people with variable success include:

1. Palliative radiotherapy for bone metastases
2. Surgical correction of impending or completed pathological fractures
3. Ablative procedures using alcohol, radiofrequency, and cryoprobes
4. Bone stabilisation with vertebroplasty and kyphoplasty
5. Cognitive, behavioural, biofeedback and diversion therapies
6. Psychological therapy
7. Physical therapy techniques (eg, exercise, heat and cold therapy)
8. Transcutaneous Electrical Nerve Stimulation (TENS). This has demonstrated a decrease in postoperative use of analgesics and may improve mobility.²⁰

It has been demonstrated that the above interventions could work alone or in combination with appropriate pharmacological strategies.²¹

New techniques

These include PCA (patient controlled analgesia), nerve blocks and intrathecal therapies, transforaminal epidural steroid injections, lumbar percutaneous adhesiolysis, and spinal endoscopy for painful lumbar radiculopathy, medullar and peripheral stimulators.²²

Conclusion

Unfortunately many older patients with cancer pain are not referred for supportive care, and often the dose of opioids and the pain relief is suboptimal. Nursing and medical staff have an important role to identify such patients for appropriate assessment and management. Both in primary care and secondary care, due consideration should be given to appropriate referral to the specialist pain clinics and hospices. At the same time, multidisciplinary decisions on end-of-life care should be planned for appropriate patients in a timely manner. Through appropriate careful approach, it should be possible to reduce or eliminate unrelieved cancer pain in older patients and thereby enhancing their quality of life.

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