

The challenge of climbing Mt. Everest: Malignant pain management in the opioid tolerant patient

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Objectives

1. Describe the incidence of cancer and cancer pain while outlining the perceptions of patients/families and caregivers.
2. Identify potential barriers to effective pain control for persons with cancer.
3. Describe how effective pain control enhances treatment outcomes for patients with cancer.
4. Explain the process of aggressive opioid titration for the person with severe cancer pain.
5. Discuss the use of adjuvant therapies in management of cancer pain.



Statistics

Chronic Pain effects 100 million Americans as determined by the Institute of Medicine of The National Academies .

The total annual incremental cost of health care due to pain ranges from \$560 billion to \$635 billion (in 2010 dollars) in the United States, which combines the medical costs of pain care and the economic costs related to disability days, lost wages and productivity.

Institute of Medicine Report from the Committee on Advancing Pain Research, Care, and Education: *Relieving Pain in America, A Blueprint for Transforming Prevention, Care, Education and Research*. The National Academies Press, 2011.
<http://www.nap.edu/openbook.php?isbn=030913172&page=1>



Statistics

Lifetime probability of having cancer increasing:

ALL TYPES OF CANCER

1 in 2 men
1 in 3 women

1 in 4 persons will die with a cancer diagnosis

American Cancer Society. (2013). American cancer society: The lifetime probability of developing and dying from cancer 2007 - 2009. Retrieved from Source: Software: DevCan: Probability of Developing or Dying of Cancer Software, Version 6.6.1. National Cancer Institute, 2012. website: <http://www.cancer.gov/aicr/groups/content/epidemiology/statistics/documents/document/acspc-017416.pdf>

Statistics

Cancer pain is present in: 20-75% of adults @ diagnosis, 17-57% of adults being treated, & 23-100% of adults in advanced & terminal stages.

23-90% of adult cancer patients experience breakthrough pain.

Pain is one of the symptoms cancer patients fear the most.

American Pain Society. (2005). Guideline for the management of cancer pain in adults and children. Glenview, IL: Author.

Statistics

70% of patients with advanced cancer report pain

10% Unrelated

23% Treatment - Related



67% Tumor-Related

Statistics

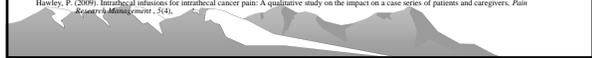
Problem of under treatment > 40%

73% of cancer pain patients felt oncology fellows failed appreciate the severity of their pain.

5% to 10% have poorly controlled or "intractable" pain

Despite this, 90% to 95% of cancer pain patients can be adequately controlled with widely available oral or parenteral analgesics and adjuvant medication

Hawley, P. (2009). Intrathecal infusions for intrathecal cancer pain: A qualitative study on the impact on a case series of patients and caregivers. *Pain Research & Management*, 5(4).



Barriers to adequate pain control

Being a good patient means to silently suffer (stoicism).

Pain is a sign of cancer worsening/ spreading.

If the pain is too severe the MD won't treat the cancer.

"Morphine means I am terminal".

Paice, J. A. & Ferrell, B. (2011) The management of cancer pain *CA Cancer Journal for Clinicians*, 61(2) 157-176



Cancer Pain Management Outcomes

There is increasing evidence in oncology that survival is linked to symptom control and that pain management contributes to quality-of-life improvement.

To maximize patient outcomes, pain management is an essential part of oncologic management.

Analgesic therapy is done in conjunction with multiple symptoms or symptom clusters and the complex pharmacologic therapies that cancer patients are prescribed.

National Comprehensive Cancer Network. (2013). *Adult cancer pain*. Retrieved from website: http://www.nccn.org/professional/physician_gls/pdf/pain.pdf



Cancer Pain Management Outcomes

It is important to consider the multidimensional impact of “suffering” of patients and their families while addressing pain in a culturally respectful manner.

National Comprehensive Cancer Network. (2013). *Adult cancer pain*. Retrieved from website: http://www.nccn.org/professionals/physician_gls/pdf/pain.pdf



Peripheral and Central Sensitizations

In the chronic pain patient, because of peripheral and central sensitization, acute pain episodes such as trauma and/or surgery may be more difficult to control initially.

In malignant pain these principles may also occur and may make pain control difficult over time secondary to progression of the cancer.

Mitra, R. & Jones, S. (2012) Adjuvant analgesics in cancer pain: A review *American Journal of Hospice and Palliative Care* 29 (1) 70-79



Aggressive Titration of Opioids

Safety is paramount!

Addition of a long acting opioid applies.

Limits to the number of short acting opioids, such as 4 doses in 24 hours, are not appropriate for malignant pain management.

If the patient does not have adequate pain control maximizing the short acting opioid, it may be appropriate to do a 100% conversion of the short to the long acting opioid (same opioid).

National Comprehensive Cancer Network. (2013). *Adult cancer pain*. Retrieved from website: http://www.nccn.org/professionals/physician_gls/pdf/pain.pdf



Aggressive Titration of Opioids

The principle of an inability to predict cross tolerability when changing from one opioid to another do apply.

Utilizing low dose methadone in conjunction with another long-acting opioid may help decrease tolerance over time.

These patients may need to be seen every few days initially to ensure adequate pain control and aggressive management of opioid side-effects.

Paice, J. A. & Ferrell, B. (2011) The management of cancer pain CA A Cancer Journal for Clinicians, 61(2): 157-176.



Aggressive Titration of Opioids

Where do you start in the opioid tolerant patient in a malignant pain crisis?

Oral dose to begin with should be 10 to 20% of the total 24 hour dose and reevaluate in 60 min. May need to repeat with increase up to 50 - 100%.

If pain persists consider IV medication.

National Comprehensive Cancer Network, (2013). Adult cancer pain. Retrieved from website: http://www.nccn.org/professionals/physician_gls/pdf/pain.pdf



Aggressive Titration of Opioids

If IV pain medication is used:

Same principle applies starting at 10 – 20 % of the total 24 hour dose (peak 15 min).

Need to consider how much the patient has had previous to this dose and whether displaying evidence of opioid side-effect.

No relief despite previous dosing, consider increasing the dose.

National Comprehensive Cancer Network, (2013). Adult cancer pain. Retrieved from website: http://www.nccn.org/professionals/physician_gls/pdf/pain.pdf



Aggressive Titration of Opioids

Rapid titration must occur in a clinical setting where the patient can be observed.

It may be appropriate for the patient to go home with an increased amount of pain medication corresponding to the amount needed to control the pain crisis with short term follow-up.



Aggressive Titration of Opioids

Caregivers must be educated on opioid side-effects and warning signs of undesirable side-effects.

Avoid the use of sedating adjuvant medication when possible.

Must always implement risk management strategies.



Use of Adjuvant Medication

1. Methylphenidate can be used to treat the sedative effects of opioids.
2. There is safety and efficacy of haloperidol to manage opioid and/or steroid-induced delirium.
3. Corticosteroids are effective in treating headache in patients with brain metastases, back pain in patients with epidural cord compression, and bone pain in patients with metastatic bone disease.

Mitra, R. & Jones, S. (2012) Adjuvant analgesics in cancer pain: A review *American Journal of Hospice and Palliative Care* 29(1) 70-79.



Use of Adjuvant Medication

- 4. The use of topical (eg, Emla cream) and regional local anesthetics to reduce pain with venous or arterial catheterization, lumbar puncture, and bone marrow aspiration.
- 5. Bone metastases are treated with bisphosphonates (Zoledronic acid or denosumab) to reducing bone pain in patients such as in multiple myeloma.
- 6. Peripheral neuropathies are treated with gabapentin or pregabalin. Care must be exercised during chemotherapy treatment as to not mask progressive neuropathies.

Mitra, R. & Jones, S. (2012). Adjuvant analgesics in cancer pain: A review. *American Journal of Hospice and Palliative Care* 29 (1) 70-79.



Use of Adjuvant Medication

- 7. Antidepressants can be helpful by making more serotonin available as it is a primary mediator of pain control in the body. Duloxetine has been shown to help with neuropathic pain as well as have tricyclic antidepressants.



Use of Adjuvant Medication

Cannabis:

Two active compounds: cannabidiol and delta-9-THC both of which may be helpful with the side-effects of cancer.

Additional cancer benefits being researched:

- Blocking cell growth
- Preventing growth of the blood vessels that supply tumors
- Anti-viral activity

Legal use medical marijuana in 19 of 50 states. However, federal law prohibits use of it.

National Cancer Institute, National Institutes of Health. (2013). *Questions and answers about cannabis*. Retrieved from website: <http://www.cancer.gov/cancerops/pdq/cannabis/patient/page2>



Use of Adjuvant Medication

Cannabis: (cont.)

Side-effect management:
 Nausea and vomiting – RX Marinol (dronabinol) or Cesamet (nabilone)
 Appetite stimulation
 Pain relief
 Anxiety and sleep

Due to lack of control of the marijuana product patient's are discouraged from smoking it.

National Cancer Institute, National Institutes of Health. (2013). *Questions and answers about cannabis*. Retrieved from website. <http://www.cancer.gov/cancerquest/pdq/cannabis/qanda/page2>



Cancer Treatment Effect

Chemotherapy and radiation may help alleviate pain by control of the disease or palliation.

Pain control may be an early indicator of disease response.

Titration down to off opioids may be possible .

The potential for a “post treatment” chronic pain syndrome is real. (Est. 30%)



Cancer Treatment Related Pain:
CHEMOTHERAPY

Arthralgia and myalgia
 EGFRs
 Palitaxel
 Interferon

Palmar-plantar erythrodysesthesia (hand-foot syndrome)
 Doxirubicin
 Capecitabine
 Docetaxel



Cancer Treatment Related Pain:
CHEMOTHERAPY

Mucositis

Chemotherapy induced neuropathies
Taxanes
Platins

Chemotherapy-induced headaches
Ondasetron
Intrathecal MTX



Cancer Treatment Related Pain:
CHEMOTHERAPY

Postchemotherapy acute limb ischemia (Raynaud's phenomenon)
Bleomycin
Vinblastine
Cisplatin

Flurouracil analog induced angina
5 FU
Capecitabine



Cancer Treatment Related:
RADIATION

Skin burns

Plexopathies

Enteritis/Proctitis

Mucositis



***Other Pain Syndromes Related To
Cancer Treatments***

Lymphedema

GI tract irritation

Osteonecrosis



***Interventional Malignant Pain
Management Therapies***

Vertebroplasty or Kyphoplasty

Compression fractures

Nerve block

Headache

Celiac Plexus Block

Intrathecal versus Epidural catheter placement

Kaplan, R. & Portenoy, R. (2013, May). *Cancer pain management: Interventional therapies*. Retrieved from <http://www.uptodate.com/contents/cancer-pain-management-interventional-therapies?>



Questions?



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