

Pain Management at the End of Life

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- Pain is one of the symptoms physicians most frequently encounter in patients receiving end-of-life care.



- Strong opioids are the cornerstone of cancer pain management and cancer pain can be managed in most cases, yet, it is not always adequately treated.



- One of the barriers to adequate treatment of pain is the prescribing physician's fear of respiratory depression in patients using strong opioids.



- Studies have proven that clinically relevant respiratory depression appears to be a negligible phenomenon when opioids are titrated against pain.



- Since 2000 there have been many studies that have not only looked at the effects of opioids on respiratory depression, specifically, but also at survival in relation to opioids use and opioids dosage.



- These studies confirm:
 - If opioids are titrated against symptoms they do not hasten death.
 - May even be associated with an increased life span.



Although the life-shortening effect of opioids use is limited, the notion that such an effect may be possible seems to be widespread among medical as well as lay people.



Should we care about managing pain at the end of life?

Yes! Studies have documented that terminally ill patients and their intimate associates have two consistent top priorities:

- Time with family/friends
- Pain Control

Ref: *Journal of Pain & Symptom Management*;
Feb. 09, Vol 37, #2, P. 144



Case 1

- 34 year old woman with metastatic breast cancer
- Bone and brain metastasis
- Disease progressing with referral to hospice
- 2 children: age 2 and 4
- Angry husband



Case 1

- Address psychosocial issues/team support
- Pain: 3/10
- Meds: oxycodone/acetaminophen 5/325
one to two pills every 4 hrs as needed
- Now using 8 pills/day
- Not sleeping



Case 1

Switch to long acting opioid

Drug	Oral/Rectal (mg)	IV/SC (mg)
Morphine	30	10
Oxycodone	20	N/A
Hydromorphone	7.5	1.5
Codeine	200	120 (IM only)
Hydrocodone	30	N/A
Oxymorphone	10	1

Fentanyl Long acting (Duragesic)	Approximately 50% of 24hr oral morphine dosage
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Case 1

Oxycodone – opioid agonist binds to the mu and kappa opiate receptors

- Available as immediate release and sustained action.
- Range of action 3-6 hours, immediate release.
- Range of action 12 hours, controlled release.



Case 1

There are many combinations of the formulation of Oxycodone and Acetaminophen.

- Oxycodone ranges 2.5 to 10 mg per pill.
- Acetaminophen ranges 325 to 650 mg per pill.
- Maximum acetaminophen
 - 4 gm/day adult
 - 3 gm/day or less in older adults



Case 1

- Pain now 5/10 (moderate)
 - 8 pills/day of 5/325
 - Oxycodone dose $8 \times 5 = 40$ mg/24 hours.
 - Moderate pain can increase dose 25-50%
 - Total oxycodone dose 40 mg mg/24 hours.



Case 1

Convert to sustained 12 hour action pill of oxycodone.

- $40 \text{ mg}/2 = 20$ mg of sustained action oxycodone every 12 hours.
- Add breakthrough dose: instant release oxycodone 5-10 mg every 2 hours prn.



Case 1

Patient now unable to swallow due to worsening brain mets and cerebral edema.

Change current dose of oxycodone sustained action 60 mg every 12 hours to fentanyl patch.



Case 1

- Total oral dose 120 mg/24 hours.
- Use equianalgesic table.
- Levy's Principal – fentanyl patch strength in micrograms is approximately equal to $\frac{1}{2}$ the total dose of morphine in mg per 24 hours, e.g., 100 mcg fentanyl patch = 200 mg oral morphine over 24 hours.



Case 1

- 20 mg oxycodone – 30 mg morphine (equianalgesic table).
- 120 mg Oxycodone – 180 mg morphine
- 50% of total morphine taken for 24 hours converts to 90 mcg of fentanyl.
- Fentanyl patch sizes are 12, 25, 50, 75 and 100
- Take into account incomplete cross tolerance
- (Likely) use 75 mcg of fentanyl patch.



Case 1

- Breakthrough dose of instant release oral morphine – 15% of total dose
- For example, 75 mcg fentanyl patch
- Breakthrough dose 20-30 mg of oral morphine instant release.



Case 2

- 65 year old man
- Carcinoma of pancreas
- Taking oral hydromorphone 6 mg every 4 hours as needed
- Pain 8/10
- Now having difficulty swallowing
- Switch to subcutaneous morphine infusion.



Case 2

- 6 mg every 4 hours
- 6 mg x 6 doses – 36 mg oral hydromorphone over 24 hours
- Convert to equianalgesic dose of oral morphine
- Table: 7.5 hydromorphone – 30 mg. oral morphine



Case 2

- 36 mg oral hydromorphone x 30 mg oral morphine divided by 7.5 mg oral hydromorphone
- Equals = 144 mg oral morphine over 24 hours
- Equal analgesic table: 10 mg parental morphine = 30 mg oral morphine
- Equals 48 mg parental (IV) morphine per 24 hours
- 48 divided by 24 = 2 mg per hour morphine infusion (subcutaneous or IV)



- May need to adjust for incomplete cross tolerance.
- Pain from terminal condition such as cancer usually increases over time and need to titrate opioids.
- No ceiling or maximum recommended opioids dose.



- Immediate release morphine is a four hour drug that renders peak effect after 45-60 minutes orally
- 15-30 minute delivered subcutaneous
- 5-15 minutes IV
- When pain not relieved within these peak time frames an additional dose should be given.

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- During titration process, no ceiling exists on the number of times that a dose may be titrated. During a 24-hour period, some patients may require higher than a 100% increase over their initial daily baseline dose.

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- Use adjuvant drugs as required
- Anti-inflammatory; nsaid and corticosteroids
- Visceral Pain: anticholinergics e.g. hyoscyamine
- Neuropathic Pain: anticonvulsants, antidepressants

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Total pain: combination of the patient's physical, social, emotional and spiritual pain.

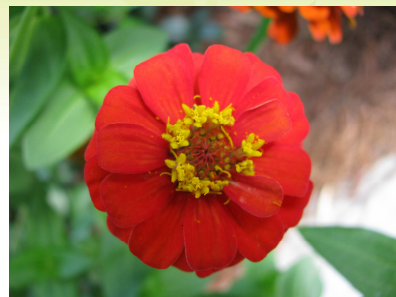
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- Suffering: "The state of severe distress associated with events that threaten the intactness of the person".
- Suffering can occur from symptoms such as pain, shortness of breath but extends beyond the physical. Patients may experience extreme suffering in the absence of physical pain.

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Thank You

for your participation in this presentation.



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