Cancer Pain: A Clinical Overview

Linda A. King, MD
Section of Palliative Care and Medical Ethics
Objectives

- Define Palliative Care
- Review prevalence of cancer pain
- Know barriers to cancer pain management
- Understand how to assess pain in cancer patients
- Discuss multimodal approach to cancer pain management
- Review common cancer pain syndromes
Palliative Care: Definition

Comprehensive management of physical, psychological, social, spiritual needs of patients with serious, life-threatening illness and their families.
Palliative Care

- Interdisciplinary approach
- At any point in disease trajectory
- Maximize QOL, mitigate suffering
- Optimize coping, reduce illness burden
- Support communication, autonomy and choice
Evolving Model of Palliative Care

PALLIATIVE CARE MODELS

Old
- Life-prolonging care
- Medicare hospice benefit

New
- Life-prolonging care
- Palliative care
- Hospice care

Diagnosis
Death

Source: Center to Advance Palliative Care

Bereavement
Cancer Pain

- Any pain symptom in patient with cancer
- Prevalent across all cancer types
  - 30-60% during treatment
  - 65-90% in advanced disease
  - 40% after treatment completed
- 70-90% cancer pain can be controlled
Cancer Pain: Categories and Causes

- Nociceptive:
  - Somatic: bone or soft tissue masses
  - Visceral: pancreatic mass, liver metastases, peritoneal metastases

- Neuropathic: epidural tumor, CIPN,

- Mixed nociceptive and neuropathic: Pelvic pain, head and neck cancer pain
Cancer Pain: Categories

- **Cancer Itself – 75%**
  - Solid tumors, primary and metastatic
- **Cancer Treatments – 25 %**
  - CIPN, definitive chemoXRT for head/neck cancer
- **Exacerbation of Chronic Non-cancer Pain**
  - Migraines, chronic LBP
- **Pain in Cancer Survivors:**
  - Post-mastectomy, post-amputation
Barriers to Cancer Pain Management

- **Patient**: Reluctance to report pain or take meds, concern re: side effects and addiction, tolerance, cost
- **Providers**: Poor assessment, reluctance to prescribe opioids, lack of knowledge, time
- **System**: Lack of easy access to resources, lack of care coordination, regulatory barriers
Cancer Pain Assessment: General

- History
- Physical Examination
- Laboratory and Imaging Studies

**Goal:**
- Clarify cancer extent
- Make a diagnosis
- Design a treatment plan
Pain Assessment: Principles

- More than one pain issue is common.
- Assess each pain at each visit.
- Pain is a subjective phenomenon. Patient report guides the assessment.
- Make a diagnosis. Specific pains respond to specific treatments.
- Assess effects on function and QOL.
Assessment: History

- Quality
- Location
- Severity
- Temporal pattern
- Alleviating/exacerbating factors
- Associated symptoms
- Previous treatments
- Impact on function
- Risk factors for aberrant use of pain meds
Pain Assessment

“Tell me about your pain.”
“How severe is the pain (0-10 scale)?”
“Where is the pain?”
“Does it travel anywhere else?”
“What does it feel like?”
“Is it there all the time or does it come and go?”
“Does it bother you at night?”
Assessment

- What makes it come on or makes it worse?"
- "What makes it better?"
- "Are there other symptoms that go along with the pain?"
- "What have you tried that has helped the pain?"
- "Does the pain interfere with your _____?"
- "What do you think is causing the pain?"
- "Do you have any worries about the pain?"
Cancer Pain: Treatment

- For each pain, develop a multimodal treatment plan.
- Design a 4-step intervention
  - Opioid regimen
  - Co-analgesics and adjuvant analgesics
  - Interventional modalities
  - Complementary and alternative modalities
Cancer Pain: Treatment

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Basic Principles of Opioid Prescribing

- Make it simple: oral route, one drug
- Prescribe an adequate dose
- Use a correct dosing interval
- Prescribe around-the-clock (long-acting opioid)
- Provide a breakthrough dose (short-acting opioid)
- Use equianalgesic conversion table
- Treat common opioid side effects
Basic Principles of Opioid Prescribing

- Precautions for aberrant drug use
  - Assess for risk factors, PDMP, substance use agreement, UDS, pill counts
- Caution when combining with other sedating meds
Principles of Opioid dosing

- Start immediate-release, short-acting opioids first in opioid naïve patient
- Transition to long-acting opioid based on frequency of use and pain response
- Continue to adjust dose based on use and effect
Long-acting opioids

- For opioid-tolerant patients:
  - Oral sustained-release formulations
    - Oxycontin, MSContin, Opana XR
    - 8 or 12 hour dosing
    - Most abuse-resistant
  - Transdermal Fentanyl
    - 72 hr duration
Long-Acting Opioid: Methadone

- Effective, inexpensive, neuropathic pain given NMDA activity
- Complicated pharmacokinetics make it tricky to dose
  - Not linear: equivalent dose depends on previous opioid use
  - Analgesic effects prompt; side effects delayed
- Significant drug-drug interactions.
  - Prolonged QTc interval, arrhythmias
- Get help if prescribing
Opioid Rotation

- Consider when escalating doses ineffective or dose-limiting side effects
- Use equianalgesic dosing tables
- Consider incomplete cross-tolerance when dosing
# Equianalgesic Dosing

<table>
<thead>
<tr>
<th>OPIOID</th>
<th>PARENTERAL (mg)</th>
<th>ORAL (mg)</th>
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<tbody>
<tr>
<td>Morphine</td>
<td>10</td>
<td>30</td>
</tr>
<tr>
<td>Oxycodone</td>
<td>20-30</td>
<td>20-30</td>
</tr>
<tr>
<td>Hydromorphone</td>
<td>1.5</td>
<td>7.5</td>
</tr>
<tr>
<td>(Dilaudid)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fentanyl</td>
<td>0.1</td>
<td></td>
</tr>
<tr>
<td>Hydrocodone</td>
<td></td>
<td>30</td>
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</tbody>
</table>
Cancer Pain: Different Routes of Opioid Administration

- Parenteral: IV or SQ
  - Patient-controlled: PC
- Sublingual concentrate
- Rectal
- Epidural/intrathecal
- Topical (wound, mucosa)
Anticipate and Treat Opioid Side Effects

- Constipation
- Nausea and vomiting
- Sedation and mental slowing
- Pruritus
- Myoclonus
- Dry mouth
- Urinary retention
- Respiratory depression
Cancer Pain: Treatment

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  - Co-analgesics and adjuvant analgesics
  - Interventional modalities
  - Complementary and alternative modalities
Co-Analgesics

- Is there an inflammatory component?
  - Bone metastases, epidural spinal disease
  - Liver capsule distention
- Treat with
  - Acetaminophen
  - NSAIDs: Ibuprofen, naprosyn, celexicob, etc.
  - Corticosteroids: Prednisone, Decadron
Co-analgesics: Challenges

- Ceiling effect
- Side effect profile: GI, bleeding
- Renal or hepatic dysfunction
- Anti-pyretic effects
Adjuvant Analgesics

- Is there a neuropathic component?
  - Burning, stabbing, shooting
  - Nerve-rich location: head and neck, pelvis, spine

- Drugs for neuropathic pain
  - Tricyclic anti-depressants: Amitriptyline, desipramine
  - Anti-epileptics: Gabapentin, Pregabalin, Depakote, Lamotrigine
  - SNRIs: Venlaxafine, Duloxetine
  - Topical agents: lidocaine, capsaicin
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Interventional Modalities

- Radiation therapy: bone, soft tissue met
- Celiac plexus block: pancreatic cancer
- Intercostal nerve block: chest wall/rib
- Hypogastric plexus block: pelvic pain
- Epidural steroid injection: spinal nerve compression
- Implanted intrathecal catheter: refractory pain; side effects of opioid therapy
- Kyphoplasty
Celiac plexus block: Visceral pain due to pancreatic cancer
Cancer Pain: Treatment

■ For each pain, develop a multimodal treatment plan.

■ Design a 4-step intervention
  ■ Opioid regimen
  ■ Co-analgesics and adjuvant analgesics
  ■ Interventional modalities
  ■ Complementary and alternative modalities
Complementary Modalities

- Heat and/or ice
- Physical therapy
- TENS
- Assistive devices
- Acupuncture
- Massage
- Behavioral therapies: Imagery, hypnosis, mindfulness
Case 1. Bone Pain

- 70 y/o woman with 1 month h/o lateral thigh pain presents to ED, imaging shows large lytic lesion in femur.
Case 1. Bone Pain

- Further imaging reveals additional bony lytic lesions in bilateral humeri, multiple vertebra, pelvis, scapula, ribs
- Chest CT scan shows spiculated L lower lobe mass as likely primary as well as liver metastases
Case 1 (continued)

- Pt undergoes prophylactic operative pinning of L femur with intramedullary nail
- Oxycodone 5-10 mg used for post-operative pain
- NSAIDs contraindicated due to patient anti-coagulated for prior DVT
- Pt undergoes 5 fractions of external beam XRT 2 weeks after surgery
Case 1 (continued)

- Patient has persistent leg pain as well as posterior shoulder pain
- Long-acting opioid added (Oxycontin 20 BID)
- Develops significant constipation, sedation, dry mouth and stops taking opioids
- Rotation to Fentanyl patch effective with less side effects overall
- Pathology confirms adenoca, lung primary, PD-L1 expression. Pt started on immunotherapy
Case 2. Pancreatic cancer

- 46 y/o man with 3 month h/o mid-lower back pain as well as 20 pound weight loss, anorexia.
- Patient initially treated symptomatically for musculoskeletal low back pain.
- Pain persists and imaging shows 4 cm head of pancreas mass
Case 2. Pancreatic cancer
Case 2. Pancreatic cancer

- Later pt is hospitalized for refractory nausea, vomiting and jaundice.
- Pain controlled with Hydromorphone PCA 0.2 mg IV q10 min prn patient bolus
- Fentanyl 25 uq patch q72 hrs added based on PCA use
- Pt undergoes endoscopy for biliary stent placement with simultaneous celiac plexus block
Case 2. Pancreatic cancer

- Jaundice and N/V resolve with stenting.
- Patient undergoes systemic chemotherapy with Gemcitabine and Abraxane.
- Develops painful numbness, tingling, burning of bilateral feet and fingertips after 2 cycles of chemo.
- Gabapentin initiated with titration of dose over 2 weeks with some improvement.
Case 2. Pancreatic cancer

- Pt referred to Integrative Oncology program and initiates acupuncture for ongoing management of anorexia and neuropathy pain
- Also, sees meditation coach for mindfulness training to assist with anxiety and insomnia
Case 3. Spinal Cord Compression

- 52 y/o woman with h/o breast cancer s/p prior mastectomy, chemo and XRT presents with several week h/o mid-back pain worse with coughing, standing, often awakens patient at night.
- Imaging shows evidence of thoracic spinal metastatic disease with epidural involvement and early SCC
Metastatic Spinal Cord Compression (MSCC)
Case 3. SCC

- Oncologic emergency
- Goal: to prevent loss of neurologic function, paralysis
- Urgent neurosurgical and radiation oncology consultation. Immediate XRT vs. surgical decompression
- Steroids, analgesics
- Serial neurological examinations
Cancer Pain: Summary

- Complete a thorough assessment to diagnose the cause of pain and to develop a treatment plan.
- Individualize each patient’s pain regimen. Re-assess frequently.
- Use a multimodal approach to treating cancer pain.