Improving Quality of Life Through Innovative Pain Management

Janet L. Abrahm, MD, FACP, FAAHPM
Division of Adult Palliative Care
Dana-Farber Cancer Institute
Professor of Medicine
Harvard Medical School

Disclosures
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- Employee:
  - Up to Date, Web Resource for Medicine
  - Knowledge to Practice, CME Cancer
  - Johns Hopkins University, Press-Test

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Learning Goals
- Identify strategies to increase the awareness of pain and symptom management among patients, family members, and healthcare professionals and how to measure these symptoms
- Differentiate between direct and indirect improvements in quality of life in response to pain and symptom management
- Identify the challenges faced by healthcare professionals when managing pain
- Recognize the impact of palliative care in helping patients achieve the best possible quality of life with an effective pain and symptom management program
- Identify available technologies for treatment of advanced pain
“Melanie Smith”

- 45 yo former model with 2 children
- Recurrent breast cancer involving ribs, scapula, and right brachial plexus; chemotherapy to start next week
- Pain 10/10; aching, burning, shooting down her right arm
- Thin, anxious, sleepless
Suffering

Loss of aspects of personhood

Aspects of her personhood affected by her pain

Melanie’s Altered Personhood

- METS INHIBIT MOVEMENT, SLEEP, EATING, HUGGING
- OUT OF WORK
- NO BOOK CLUB
- NO ROLE IN FAMILY
- GUILT
- HOPELESSNESS
- HELPLESSNESS
- FEAR OF DEATH
- NO CHURCH
- ESTRANGED FROM FAITH?
- PAIN = PUNISHMENT

Domains of Her Losses

- PHYSICAL: METS inhibit movement, sleep, eating, hugging
- SOCIAL: Out of work, no book club, no role in family
- PSYCHOLOGICAL: Guilt, hopelessness, helplessness, fear of death
- SPIRITUAL: No church, estranged from faith, pain = punishment

Impact of Pain for Cancer Patients
- 30% prevalence early in the course
- 75%–90% with advanced disease
- 50% mod-severe, requiring prescribed analgesia
- Up to 50% feel that their pain is not adequately controlled
- In 90%, pain is controllable by oral/transdermal medications
- In 99%, pain is controllable without excessive sedation using additional techniques

Factors Contributing to Uncontrolled Pain
- Patient, family, and clinician barriers
- Opioid dose too low
- Opioids taken only intermittently, allowing pain to return
- Opioid-refractory pain
- Psychological distress
- Spiritual concerns
Fear that pain heralds recurrence
Reluctant to complain and appear weak
Fear of bothering, angering physician
Don’t expect relief → don’t report pain

Patient Barriers

A Bill of Rights for People With Cancer...

• I have the right to have my pain believed by health professionals, family, friends, and others around me
• I have the right to have my pain controlled, no matter what its cause or how severe it may be

A Bill of Rights

• I have the right to be treated with respect at all times. When I need medication for pain, I should not be treated like a drug abuser
• I have the right to have pain resulting from treatments and procedures prevented or at least minimized
Unspoken Concerns

- Will I get addicted?
- What will people think of me?
- What will I do if the pain gets worse?

Unspoken Concerns

- Will I get addicted?
- NO. Addicts want to get OUT of their lives
- Patients want to get back INTO their lives
- What will people think of me?
- They won’t be able to tell any difference
- What will I do if the pain gets worse?
- Take more or stronger medication
- You cannot “use up” pain medication

When Would My Doctor Change My Pain Regimen?

- I have sleepiness that persists
- I have nausea that persists
- I am confused
- I want to try something else
Family Barriers
The family asks:

Is she really having pain?
Chronic Pain Assessment

Which of the following is NOT helpful in assessing chronic pain severity:
- Sleep pattern
- Blood pressure/pulse
- Activity level
- Relationships with others

Acute Pain

- **Activation** of sympathetic nervous system
  - Increased blood pressure (BP)
  - Increased heart rate
  - Sweating, restlessness, agitation

Chronic Pain

- **Adaptation** of sympathetic nervous system
  - Normal BP
  - Normal heart rate
  - May be no observable signs or symptoms of pain
Chronic Pain Assessment

Which of the following is NOT helpful in assessing chronic pain severity?
- Sleep pattern
- BP/pulse
- Activity level
- Relationships with others

Brief Pain Inventory (BPI)

- Pain severity/% relief
- Pain-related interference with
  - General activity
  - Mood
  - Walking ability
  - Work (home or outside)
  - Relationships with others
- Sleep
- Enjoyment of life

SUMMARY:
Patient and Family Barriers

- Patient challenges
  - Desire to be a “good” patient
  - Low expectation of relief
- Patient and family challenges
  - Don’t “see” the pain
  - Fear of opioids
  - Fear of “using up” opioids
  - Increased pain = progressive disease
CLINICIAN CHALLENGES:
Treatment for Cancer Patients in Pain

- Cancer pain can be relieved while its cause is being determined
- Cancer pain can be controlled even when the cancer itself cannot
- Opioid dose escalations are safe and well-tolerated by patients in uncontrolled pain
- Adjuvants add significantly to pain relief
- Most side effects caused by pain-relieving medications can be prevented or treated

“Melanie Smith”

- 45 yo former model with 2 children
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- Pain 10/10; aching, burning, shooting down her right arm
- Thin, anxious, sleepless
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Usual "Integration" of Palliative Care

<table>
<thead>
<tr>
<th>Disease-oriented Treatment</th>
<th>Symptom-oriented Treatment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diagnosis</td>
<td>Remission</td>
</tr>
<tr>
<td>Relapse</td>
<td>Terminal Phase</td>
</tr>
</tbody>
</table>

A Better Plan

<table>
<thead>
<tr>
<th>Symptom-oriented Treatment</th>
<th>Disease-oriented Treatment</th>
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<tr>
<td>Diagnosis</td>
<td>Remission</td>
</tr>
<tr>
<td>Relapse</td>
<td>Terminal Phase</td>
</tr>
</tbody>
</table>

Her Goals and Purposes

What does she need to be able to DO?
Primary Goals

- Tolerable pain
- No constipation
- Get through the chemo
- Be a mom to her kids and a wife to her husband
- Feel useful around the house
- Reconnect with her faith
- Teach

Evidence-based Guidelines

- American Pain Society¹
  - Cancer pain in adults and children
- National Consensus Project²
- National Comprehensive Cancer Network (NCCN)³
  - Adult cancer pain
  - Palliative care
  - Distress

Tolerable Pain

Bone pain (ribs, clavicle)

- Bisphosphonates
- RANK-L inhibitors
- NSAIDs/Acetaminophen
- Single-fraction XRT


Adjuvant Therapy for Neuropathic Pain

Glucocorticoid pulse
eg. dexamethasone

Anticonvulsants
eg. gabapentin, pregabalin

Tricyclic antidepressants

Topical agents

Fentanyl Patch

Is rapid titration possible?

Opioid Titration in an Opioid-Naïve Patient

<table>
<thead>
<tr>
<th>TIME</th>
<th>3 PM</th>
<th>4 PM</th>
<th>5 PM</th>
<th>6 PM</th>
<th>7 PM</th>
</tr>
</thead>
<tbody>
<tr>
<td>PAIN SCORE</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>7</td>
<td>3</td>
</tr>
<tr>
<td>ORAL MORPHINE</td>
<td>5 mg</td>
<td>10 mg</td>
<td>20 mg</td>
<td>20 mg</td>
<td>0 mg</td>
</tr>
</tbody>
</table>

At 7 PM:
Begin 7.5–10 mg morphine sulfate instant release (MSIR) q3–4 hr OR 15–30 mg morphine sulfate sustained release (MSSR) q8 hr (~50% of 55 mg MSIR over 4 hr)
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Opioid Equivalent Table

<table>
<thead>
<tr>
<th>ORAL (mg)</th>
<th>IV/SQ (mg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Morphine</td>
<td>30</td>
</tr>
<tr>
<td>Oxycodone</td>
<td>20</td>
</tr>
<tr>
<td>Hydromorphone</td>
<td>7.5</td>
</tr>
<tr>
<td>Oxymorphone</td>
<td>10</td>
</tr>
<tr>
<td>Methadone</td>
<td>7.5</td>
</tr>
<tr>
<td>Fentanyl</td>
<td>N/A</td>
</tr>
<tr>
<td>(Meperidine—not recommended for pain)</td>
<td>300</td>
</tr>
</tbody>
</table>

Prevent Constipation

- Stop nonsoluble fiber
- Start
  - Stool softener
  - Motility agent
  - Polyethylene glycol
  - Lactulose
  - At last resort
  - Methylnaltrexone

Refractory Neuropathic Pain

- Ketamine
- Nerve blocks/neurolysis
- Methadone
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Theoretical Methadone Mechanisms

Proposed Morphine:Methadone Conversion Ratios

<table>
<thead>
<tr>
<th>Oral Morphine (mg/24 hr)</th>
<th>Morphine:Methadone Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; 100</td>
<td>4:1</td>
</tr>
<tr>
<td>101–300</td>
<td>8:1</td>
</tr>
<tr>
<td>301–600</td>
<td>10:1</td>
</tr>
<tr>
<td>601–800</td>
<td>12:1</td>
</tr>
<tr>
<td>801–1000</td>
<td>15:1</td>
</tr>
<tr>
<td>&gt; 1000</td>
<td>20:1</td>
</tr>
</tbody>
</table>

Methadone: Drug–Drug Interactions

- 24 hr half life; steady state in 3–4 days
- Methadone is primarily metabolized by CYP450 3A4, but also by 1A2, and 2D6
- Their inducers and inhibitors cause drug interactions with methadone
  - Increased or decreased methadone levels
  - Fluconazole
  - Increased toxicity of other medications
  - Food and herbal products interactions
  - Prolonged QTc
Other Drugs That Prolong QTc

- Levofloxacin
- D2 antagonists
  - Haloperidol, chlorpromazine, olanzapine, metoclopramide
- Experimental agents (eg, Lapatinib Ditosylate)

Qtcdrug.org/medical-pros/drug-lists/drug-lists.htm

Could spinal analgesia help her?

Spinal Opioids/Anesthetics

- Perception
- Spinal cord
- Modulation
- Transmission
- Primary spinal nociceptor

Clonidine

X
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Potency of Spinal Opioids

<table>
<thead>
<tr>
<th>Route</th>
<th>Potency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oral morphine</td>
<td>300 mg</td>
</tr>
<tr>
<td>Intravenous morphine</td>
<td>100 mg</td>
</tr>
<tr>
<td>Epidural morphine</td>
<td>10 mg</td>
</tr>
<tr>
<td>Intrathecal morphine</td>
<td>1 mg</td>
</tr>
</tbody>
</table>

What if her pain remains intolerable?

Psychosocial, spiritual, and existential causes of distress
Persistent Distress: Unasked Questions...

- Psychosocial and spiritual concerns
- May present as continued complaints of "10/10" pain
- Prevalence: ~50% in cancer population
- Typical unasked questions
  - How do I talk with my children?
  - Can I continue to work?
  - What will happen to me, to my family?
  - Who am I now?
  - Why am I being punished?

...Persistent Distress: Unasked Questions

- Existential suffering—characteristic feelings
  - Being a burden on others
  - Meaninglessness of life
  - Loss of recognizable, acceptable self
  - Loss of purpose

Cassell E. The Nature of Suffering and the Goals of Medicine, 2nd ed. New York, NY: Oxford University Press, 2004

Meaning

What does the pain mean to her?
To her family?
To you?
Meaning of the Pain

Melanie
- Disability
- Helplessness
- Fear
- Loss of aspects of her personhood

Her Family
- Fear
- Loss of their mom or wife
- We have to take care of her now
- Helplessness

Clinicians
- Recurrent tumor that is likely to respond to chemo
- Challenge to bring pain under control
- This might be me… (or someone I love)

Function

What are her goals and purposes?
What has she lost?
What can you help her regain or reframe?

Primary Goals

- Tolerable pain
- No constipation
- Get through the chemo
- Be a mom to her kids and a wife to her husband
- Feel useful around the house
- Reconnect with her faith
- Teach
Reframed Goals

- Identify things Melanie can do that don’t depend entirely on her right arm
  - As a mom
  - As a wife
  - Around the house
- Melanie might tutor if she can’t teach at school

What are her sources of support?

Can they be enhanced/regained?

Melanie’s Support

- Current
  - Family
  - Colleagues at school
- Enhancements
  - Visiting nurse/health aide
  - Home physical therapy
  - Counselors for her kids
  - Spiritual and psychosocial counselors for her/husband
Reconnect With Her Faith
- Pastoral counseling about
  - Guilt
  - Fears about dying
  - Loss
  - Punishment
  - ?

Meaning of the Illness

- Physical: Debility
- Social: Isolation
- Psychological: Depression, Fear of Death
- Spiritual: Punishment

Healing

- Physical: Pain tolerable, Key functions restored or limitations accepted
- Social: Connection
- Psychological: Meaning making, Trust redirected hope
- Spiritual: Forgiveness
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Bibliography

- Clinical Guidelines for Quality Palliative Care, 3rd ed. 2015. www.nationalconsensusproject.org
- National Comprehensive Cancer Network. www.nccn.org (Access to guidelines is limited to subscribers)
- Qtcdrug.org/medical/pros/drug-lists/drug-lists.htm

Q&A