CANCER RELATED PAIN

When oral opioids aren’t enough

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DISCLOSURES

• Nothing to disclose
OBJECTIVES

• Review principles of cancer pain management
• Illustrate nerve blocks frequently used for cancer-related pain
• Discuss intrathecal pumps and their use in hospice
HISTORY OF CANCER PAIN
"In the fall of 1907, Charlotte contracted colon cancer at the age of 34. She spent eight weeks at Holy Cross Hospital in Salt Lake City. During her hospitalization Bert stayed with his Grandma Palmer.

"After Charlotte came home from the hospital, she remained very ill and was bedridden until the summer of 1908. Charlotte’s mother would not visit her when she was dying, and Bert acutely remembered how much that hurt Charlotte."
HOW FAR HAVE WE COME?

“Charlotte was out of bed for a few weeks in the summer of 1908, but by fall she was bedridden again. She was in agonizing pain at the end of her life. Bert remembered running down to the barn, lying in the hay, and covering his ears so that he could not hear her screams. He also would run down the lane holding his hands over both of his ears to see how far he could get until he could no longer hear her heart-breaking screams.

“She died on January 16, 1909. Bert was fourteen years old at the time of his mother’s death.”
Pain is an unpleasant sensory and emotional experience.

Cancer pain is experienced by

55% of patients undergoing treatment for cancer

66% of patients who have advanced metastatic or terminal cancer

Pain relief improves the quality of life of patients with cancer
Different ways to manage pain:

- Non-opioid pain medications
- Opioid pain medications
- Nerve blocks
- Neurological treatments
- Palliative care
- Radiation therapy
  - External radiation therapy
  - Radiopharmaceuticals
- Physical medicine and rehabilitation
- Complementary therapies
  - Acupuncture
  - Hypnosis
  - Support groups
- Others
WHO GUIDELINES FOR THE PHARMACOLOGICAL AND RADIOTHERAPEUTIC MANAGEMENT OF CANCER PAIN IN ADULTS AND ADOLESCENTS

Pain relief improves the quality of life of patients with cancer

#Cancer #PalliativeCare
What happens when pain medicine is:

• not working,
• not tolerated, or
• not enough?
WHO ANALGESIC LADDER (ADAPTED)

Increasing pain

Non-opioid analgesics +/- adjuvants +/- NSAID/APAP

Opioid analgesics for mild-moderate pain +/- adjuvants +/- NSAID/APAP

Opioid analgesics for severe pain +/- adjuvants +/- NSAID/APAP

Consider more specialized therapies (lidocaine infusion, patient-controlled analgesia) +/- adjuvants +/- NSAID/APAP

Consider interventional options at all stages
MRS. B:

55yo female with metastatic melanoma, s/p resection of neck metastasis (intensive surgery requiring some resection of the skull base).
OCCIPITAL NERVE BLOCK

https://accessanesthesiology.mhmedical.com/content.aspx?bookid=413&sectionid=39828167
OCCIPITAL NERVE BLOCK

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OCCIPITAL NERVE STIMULATOR

Figure 4. Placement of two octopolar stimulating array leads.
MRS. B

Resolution:

Greater and Lesser Occipital Nerve Block provided excellent relief for 9 weeks, reduced PRN opioid use. Was repeated 4 months later with good (but not excellent) relief of pain.
Mr. A is a 63yo male with a 3 month history of abdominal pain and weight loss. His initial CT scan done in the ED is shown here.
CELIAC PLEXUS BLOCK
CELIAC PLEXUS BLOCK TECHNIQUE
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COMPLICATIONS

- Postural hypotension
- Diarrhea
- Bleeding
- Organ puncture
- Pneumothorax
- Paraplegia
- Sexual dysfunction
MR. A

Celiac plexus block worked very well, reduced his hydrocodone use to 1-2 times a week. Constipation well-managed now, using senna PRN.
MRS. C

45yo female diagnosed with stage II squamous cell carcinoma of the anal canal.
SUPERIOR HYPOGASTRIC PLEXUS
GANGLION IMPAR BLOCK
MRS. C

Did well with the procedure, pain reduced enough that she can now sit through 2 hours of church service.
MR. E

61yo male with metastatic prostate cancer with bony spinal column involvement.
KYPHOPLASTY

1. Balloon inserted into fractured vertebra
2. Balloon inflated inside damaged vertebra
3. Special material injected into fractured vertebra
4. Special material hardens, stabilizing vertebra
KYPHOPLASTY
MRS. D

56yo female with breast cancer metastatic to bone. History of IV heroin, meth use with limited treatment for her substance abuse disorder and bipolar disorder.

Pain located in her right hip, already treated with palliative radiation with no pain relief. She was using samples of heroin, cannabis and meth to try to control her pain. Also using valium.
SUBSTANCE ABUSE, MEDICATION MISUSE AND UNTREATED PAIN- HOW CAN YOU MANAGE SAFELY?
INTRATHECAL PAIN PUMPS
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INTRATHECAL DRUG DELIVERY SYSTEMS

• Applications
  – Baclofen delivery for spasticity
  – Pain medication delivery
    • Side effects with oral medications
    • Inadequate pain control with other formulations
    • History of drug abuse
  – Example:
    • 500mg oral morphine = 1.7mg intrathecal morphine
    • Systemic levels of morphine negligible
Hospice course:

• Transitioned to hospice 4 months later (pump filled with concentrated medication)

• The pump representative has been out several times to make adjustments in her rates
MRS. F

73yo female with history of breast cancer, treated with TC (docetaxel and cyclophosphamide). 2 years out from curative treatment, on anastrazole.

Has burning and tingling in her hands and feet bilaterally, worse in the cold weather. Gabapentin brings some relief, but pregabalin, duloxetine and amitriptyline were all ineffective.
SPINAL CORD STIMULATION

• Modern SCS systems are made up of three components:
  – Epidural array of contacts “leads”
  – Power source “pulse generator”
  – External programmer and controller

• Lead Types:
  – Percutaneous or “wire”
  – Paddle or “laminectomy”
SCS PROGRAMMING

- Conventional
- Burst
- 10 kHz
MRS. F

The patient underwent spinal cord stimulator trial and subsequent implant.

- Six months later she continues to have significant pain relief.
- She is more functional including knitting and spending quality time with her grandchildren.
KEY TAKE HOME POINTS:

• Cancer pain can be managed many different ways, not just opioids
• Nerve blocks should be considered in patients with abdominal or pelvic pain
• Intrathecal pumps are a safe way to manage cancer pain for select patients
References

- World Health Organization (www.who.org)
- https://www.sciencedirect.com/science/article/pii/S2211568413000958#fig0005
- https://www.nature.com/articles/3901568
- National Comprehensive Cancer Network (www.nccn.org)
- The American Society of Clinical Oncology (www.asco.org)