State of the Science: Update in Hospice and Palliative Care (103)

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(All speakers for this session have disclosed no relevant financial relationships.)

Objectives

1. Summarize eight important, peer-reviewed articles from the last year.
2. Critique the methodologies and understand the conclusions of these articles.
3. Determine if the findings are relevant to the patients for whom the attendee cares.

The objective of this session is to review the journal articles published during the last year with the highest potential for impact upon the field of hospice and palliative medicine. A hand search of leading journals highly relevant to the practice of hospice and palliative care was supplemented with a search of evidence-based reviews, a targeted keyword search, and conversations with experts in the disciplines of medicine, nursing, and social work. Journal articles were reviewed for both study quality and potential for immediate impact on the field of hospice and palliative care. There was a selection bias against descriptive studies, pilot studies, preclinical studies, retrospective studies, open-label trials, case series, instrument validation studies, and confirmatory analyses.

The eight papers selected for presentation at this session were chosen from among studies meeting the above criteria with an attempt to appeal to the broad interests of assembly attendees.

Domain

All Domains

State of the Science: Update in Hospice & Palliative Care

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Disclosure Statement

Drs. Goldstein and Anderson have no relevant financial relationships to disclose.

HPM – Now a TRUE Specialty

- Specialized knowledge
- Commitment to
  - —Research
  - —Dissemination

Objectives

1. Summarize eight important peer-reviewed articles from last year
2. Critique their methodologies and understand their conclusions
3. Determine if the findings are relevant to the care of your patients

Methods

- Hand search of leading journals, electronic media January 2008-December 2008
- Supplemented with key-word search, discussion with experts in field, PC-FACS, search of evidence-based reviews
- Selection criteria
  - —Quality of science
  - —Potential for impact
  - —Appeal to breadth of interest

Key Issues to Be Considered

1. Is the question important?
2. Are the results valid?
3. What are the results?
4. Can I apply the results to my patients?

Case 1

As the palliative care social worker for your hospital's outpatient practice, you frequently have physicians asking for your advice. One of the oncologists comes to ask you about a particular patient with whom he is not sure if he should discuss prognosis.

"I'm concerned that it will just be upsetting to the patient and her family. These conversations are all so difficult and they don't actually do any good."

You try to convince the oncologist to have the conversation, but he asks for evidence that communication actually provides benefit.

Associations Between End-of-Life Discussions, Patient Mental Health, Medical Care Near Death, and Caregiver Bereavement Adjustment

Wright AA, Zhang B, Ray A, Mack JW, Trice E, Balboni T, Mitchell SL, Jackson, VA, Block SD, Maciejewski PK, Prigerson HG.

JAMA. 2008. 300(14): 1665-1673.

Methods

Design: Prospective, longitudinal, cohort study to determine relationship between conversations about prognosis and quality of end-of-life care and caregiver outcomes

Setting: Seven outpatient sites

Population: Terminally ill cancer patients and caregivers. Patients were eligible if they had advanced cancer; ≥ 20 years old; and had a caregiver

Funding: NCI, NIMH

Methods

- Patients / caregivers interviewed at baseline
- After patient death, chart reviewed for care received at end of life, after-death interview with caregiver
- Main Predictor Variable:
  - —"Have you and your doctor discussed any particular wishes you have about the care you would want to receive if you were dying?" (yes/no)

Methods and Analysis

- Outcome measures for patients:
  - —Use of life-sustaining treatments at end of life, mental health, hospice use
  - —QOL at end of life (obtained from caregiver interviews)
- Outcome measures for caregivers:
  - —Mental health
  - —Bereavement adjustment
- Propensity score analysis to control for differences between groups of patients

Key Findings

- Cohort made up of 332 terminally ill cancer patients who died median of 4.4 months after enrollment
- 123 of 332 (37%) had end of life discussions with physicians at baseline
- Bereaved caregivers interviewed median of 6.5 months after patient death
- Were significant differences by site in conversations as well as differences in performance status, symptom burden, and survival time – all balanced in propensity score analysis

Key Findings

- End of life conversations not associated with patients reporting worse emotional states or meeting criteria for mental disorder
- Patients who reported conversations more likely to accept that their illness was terminal (53 vs. 29%), prefer treatments focused on symptom control (85 vs. 70%) ($p<.001$)
- Patients who had conversations had lower rates of mechanical ventilation (2 vs. 11%), undergo resuscitation (1 vs. 7%), or be admitted to an ICU (4 vs. 12%) ($p=.02$). Also had longer hospice stays ($p=.03$).

Key Findings

- Caregivers rated patient's QOL at EOL worse if patient received aggressive interventions, better if received hospice.
- Caregivers of patients who received aggressive care were at higher risk of developing depression and had worse ratings of their own QOL.
- Direct relationship between patient QOL at end of life and caregiver QOL at follow-up. Caregivers of patients with higher QOL better prepared for patient death and experienced less regret.

Key Issues

- Is the question important?
  - Barriers to conversation about EOL care often relate to concerns about the effects of those conversations on patients
  - Few longitudinal studies examining relationship between conversations and patient / caregiver outcomes

Key Issues

- Are the results valid?
  - Not cause and effect
  - No mention of palliative care intervention in either group
  - Recall bias on part of patient and family – could go either way
  - Propensity score used for baseline characteristics, but only adjusts for factors you can measure

Key Issues

- What are the results?
  - Conversations about care preferences are not harmful
  - In fact, they are associated with improved outcomes in patients and these better outcomes relate to better outcomes in caregivers

Key Issues

- Can I apply these results to my patients?
  - —Overall sends message that conversations about severity of illness may help patients and caregivers
  - —Does not prove relationships but is convincing evidence about benefits of communication

Clinical Bottom Line

Conversations about goals of care are associated with less aggressive interventions and improved quality of life for patients near the end of life. These conversations may also improve outcomes for caregivers.

Case 1 continued

Two weeks later the patient has returned to the outpatient clinic. The oncologist comes back to speak with you and appears frustrated.

"So I had the conversation with the patient," he says, "but she still doesn't seem to get it. I don't think she understands how sick she is."

As the outpatient palliative care social worker, you first acknowledge his frustration and that you hear his concerns. You then ask more specifically exactly what words the oncologist used when speaking to the patient.

"Why – what difference does that make?" he asks.

Patient-Oncologist Communication in Advanced Cancer: Predictors of Patient Perception of Prognosis

Robinson TM, Alexander SC, Hays M, Jeffreys AS, Olsen MK, Rodriguez KL, Pollak KI, Abernathy AP, Arnold R, Tulsky JA

Supportive Care Cancer. 2008 16:1049-1057

Methods

Design: Analysis of audiotaped oncologist-patient encounters to determine factors that influence patient-oncologist concordance about chance of cure

Setting: Two outpatient oncology practices at academic medical centers

Population: "Surprise Question"

Cancer patients whose oncologists would not be surprised if their patients were admitted to an ICU or died within 1 year

Funding: NCI, Duke University

Methods

- Encounters between oncologist and patient were recorded
- After visit, oncologists completed a survey assessing chance of cure
  - 11 responses: 0%, 1-10%, 11-20%, etc.
- Patients (blinded to prognostic eligibility criteria) completed post-visit surveys using a similar scale
- Concordance scored as “good” or “bad” depending on how close responses were:
  - Good – 0-2 categories difference
  - Bad – 6-10 categories difference
  - Medium – 3-5 categories --- discarded

Methods

- Recorded conversations coded for statements that might influence patient’s prognosis perception
  - Could be about tests, treatments, prognosis
- Creating a coding scheme that divided statements about prognosis into optimistic, pessimistic, or uncertain.
  - Person who coded conversation blinded to concordance about chance of cure
- Optimistic/pessimistic statements further divided into past/present and future.

Examples of Statements

<u>Optimism about past / present:</u>

“Your scan looks great. Everything looks wonderful from that point of view. So put your mind to rest about that.”

<u>Optimism future:</u>

“You know, it could be that you remain in remission for many years.”

<u>Pessimism about past / present:</u>

“Unfortunately it looks like the cancer has grown further, which tells me that the chemo we gave you wasn’t of benefit.”

<u>Pessimism future:</u>

“Your tumor is at high risk of relapse.”

Data Analysis

- Predictor variable: statement about prognosis
- Outcome variable: patient-physician concordance about chance of cure
- Chi-square used to examine associations between predictor and outcome
- Multivariable regression used to evaluate influence of demographic factors, cancer type, and extent of disease on the relationship between predictor and outcome

Results

- 187 conversations recorded where both MD and patient provided numeric estimate of chance of cure
- 141 MD-patient pairs had good or poor concordance about chance of cure – represents 51 oncologists, 141 patients
- Mean patient age 60 years, 84% were white
- 23% of patients undergoing curative treatments, 64% palliative and 13% no treatment

Key Findings

- Oncologists made optimistic statements in 85% of encounters, pessimistic in 46% of encounters
- 69 MD-patient pairs good concordance
- 72 MD-patient pairs bad concordance
  - In all of these patients overestimated chance of cure

Key Findings

- Statements of optimism (past/present or future), uncertainty not related to concordance about chance of cure
- Significant associations between statements of pessimism (p=.0006) and pessimism about the future (p=0.015) and good concordance
- Relationship between pessimism and improved concordance held after controlling for demographic factors, disease type
  - —Adjusted OR for at least 1 pessimistic statement and good concordance about cure 2.9 (95% CI 1.4-6.3)

Key Issues

- Is the question important?
  - — Well known that patients overestimate prognosis and often don't "hear" what clinicians "think" they do
  - — Communication with patients with advanced illness is complicated and most clinicians need guidance and techniques to improve their skills

Key Issues

- Are the results valid?
  - — Well designed study
  - — Performed additional analysis to examine effect of clustering within oncologists (found none)
  - — Unclear how including "medium" concordance would have influenced the results

Key Issues

- What are the results?
  - Patients' understanding of prognosis differs from that of oncologists
  - When understanding differs, patients often over-estimate their prognosis
  - Use of pessimistic statements improves concordance of MD-patient estimate of chance of cure

Key Issues

- Can I apply the results to my patients?
  - Patients were relatively young, white, and all had cancer
  - Information that we can use to educate our colleagues
  - Easily understandable, very "teachable" point

Clinical Bottom Line

Communication of pessimistic information to patients with advanced cancer increases the likelihood that they will report prognosis estimates concordant with their physician. Best communication strategy may be to emphasize optimistic aspects of prognosis while also clearly communicating pessimistic aspects.

Case 2

You are a (recently board certified!) palliative care doctor attending in your outpatient palliative care clinic.

A fellow in your (recently accredited!) palliative care fellowship presents a patient to you.

Case 2, cont'd

The patient is a 50 year old man with HIV/AIDS on HAART therapy and painful peripheral neuropathy.

His pain is never below 7/10 and has been refractory to multiple opioids and adjuvants.

The fellow wants to change the patient to methadone.

Case 2, cont'd

You ask to see the patient's EKG.

The fellow looks at you blankly and says "Why would he need an EKG?"

Case 2, cont'd

You explain that methadone may prolong the QTc, resulting in torsade de pointes and death, and that the FDA issued physician safety alerts and black box warnings about this risk.

You give the fellow the following evidence-based guidelines.

QTc Interval Screening in Methadone Treatment

Krantz MJ, Martin J, Stimmel B, Mehta D, Haigney MC

Ann Intern Med. 2009 150:387-395

Overview

Design: Expert panel, consensus guideline development, systematic literature review

Nominated by: Center for Substance Abuse and Treatment (CSAT)

Goals:

- Synthesize evidence of methadone's proarrhythmic effects
- Formulate clinical practice guideline

Funding: CSAT paid travel, meeting expense

Methods

- Multidisciplinary Expert Panel:
  - Electrophysiology, pain-management, epidemiology, addiction medicine, FDA
  - Created clinical guidelines
- Literature Search
  - MEDLINE and EMBASE 1966-2008 “Methadone AND Heart Diseases”

Results

- Methadone is associated with QTc interval prolongation, torsade de pointes, and sudden death
- 2-16% of patients on methadone had QTc > 500 ms
- Highest risk of QTc prolongation and torsade with doses >100 mg/d
- Sudden cardiac death has been reported at doses as low at 29 mg/d

Panel Recommendations

The panel unanimously agreed on 5 guidelines:

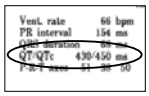
1. Disclosure: Inform patients of arrhythmia risk when prescribing methadone.

2. Clinical History: Ask patients about any history of structural heart disease, arrhythmia, and syncope.

Panel Recommendations cont'd

3. Screening:

- Pretreatment EKG for all patients to measure the QTc
- Follow-up EKG within 30 days and annually, more frequently if dose >100 mg/day
- Urgent evaluation including EKG for syncope or seizures



Panel Recommendations cont'd

4. Risk Stratification:

450 ms < QTc < 500 ms

- Discuss risks and benefits with patients
- Monitor more frequently

QTc > 500 ms

- Discontinue or reduce methadone
- Eliminate factors that prolong QT (e.g. drugs that promote hypokalemia)
- Use alternative therapy

Panel Recommendations cont'd

5. Drug Interactions: Be aware of interactions between methadone and other drugs that possess QT interval-prolonging properties or slow the elimination of methadone.

Prolong QTc	Increase plasma methadone
Amiodarone	Atazanavir
Chlorpromazine	Delavirdine
Cocaine	Erythromycin
Haloperidol	Fluconazole
Pentamidine	Fluvoxamine
Levofloxacin	Sertraline
- http://www.azcert.org/	- MICROMEDEX

Key Issues

Is the question important?

- There are no clear practice guidelines for QTc interval screening for methadone in palliative care patients
- These may be becoming standard of care in both pain management and methadone maintenance

Key Issues

Are the results valid?

- Expert panel including specialists in electrophysiology and pain management
- Systematic literature search -> multiple studies using different methodologies established relationship
- The absolute risk of death from methadone-related torsade is unclear

Key Issues

What are the results?

- Methadone is associated with QTc prolongation, torsade de pointes, and death
- Clinicians should screen for QTc prolongation to prevent methadone-related torsade de pointes

Key Issues

Can I apply the results to my patients?

- Methadone is commonly used in hospice and palliative care
- Palliative care patients often take other medications or have underlying diseases that magnify QTc prolongation
- Relationship well established in both chronic pain and methadone maintenance populations
- Is screening appropriate at the end of life?

Clinical Bottom Line

- Clinicians should obtain EKGs to screen for QTc interval prolongations in patients on methadone
- Modifications may be appropriate when the burden of screening or withholding methadone outweighs the benefit, e.g. at the end of life

Case 3

You are a nurse practitioner caring for a 70 year old woman with COPD in an inpatient hospice.

Her dyspnea is well controlled with oral morphine but she has constipation which is refractory to senna, colace, and lactulose.

Case 3 cont'd

The patient's son is a biochemistry researcher, and found an article about methylnaltrexone. He asks whether it would be an appropriate treatment for his mother's constipation.

What do you tell him?

Methylnaltrexone for opioid-induced constipation in advanced illness

Thomas J, Karver S, Cooney GA, Chamberlain BH, Watt CK, Slatkin NE, Stambler N, Kremer AB, Israel RJ

N Engl J Med. 2008 358:2332-43

Methods

Design:

- 2 week double-blind randomized, placebo-controlled trial
- 3-month open-label extension

Study Sites:

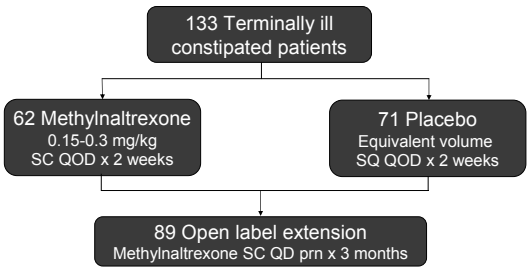
- US + Canadian nursing homes, hospices, and palliative care centers

Funding: Progenics Pharmaceuticals

Participants

- Terminal disease, life expectancy > 1 month
- Opioids for analgesia > 2 weeks
- Stable laxative, opioid regimen > 3 days
- Constipation, as defined as:
  < 3 BM in past wk + No BM in 24 hrs
  OR
  No BM in 48 hrs

Intervention



Outcomes

Primary: Laxation

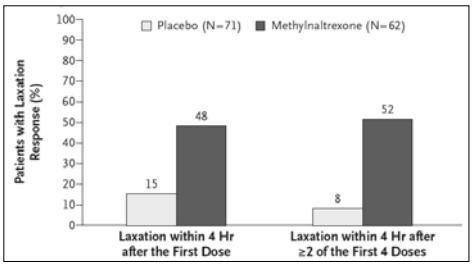
- Within 4 hrs of 1st study drug dose
- Within 4 hrs after 2 or more of the 1st 4 doses

* Patients continued baseline laxative regimen, could only take prn 4 hrs before or after study drug dose

Other

- Pain scores
- Opioid withdrawal symptoms
- Adverse events

Results: Laxation



From: N Engl J Med. 2008 358:2332-43

Results: Other

Pain scores + Opioid withdrawal symptoms: no difference between groups

Adverse Events

- Most mild, total frequency same in both groups
- More common in methylnaltrexone: abdominal pain (17%), flatulence (13%), nausea (11%), increased body temperature (8%), dizziness (8%)
- Severe, life-threatening events, deaths same in both groups, related to underlying disease

Key Issues

Is the question important?

- Constipation can be a treatment-limiting side effect of opioids
- Many patients remain constipated on traditional laxatives

Key Issues

Are the results valid?

- Double-blind randomized placebo controlled trial
- Intention to treat analysis
- Laxation may have been influenced by prn laxatives taken more than 4 hrs before study drug dose
- Use of prn laxatives not reported
- Funded by pharmaceutical company

Key Issues

What are the results?

- Methylnaltrexone was superior to placebo at inducing laxation in patients with opioid-induced constipation

Key Issues

Can I apply the results to my patients?

- Good representation of diagnoses, sites of care (except home / outpatient)
- Excluded patients with prognosis < 1 month
- Cost may be limiting: $50/dose (www.medscape.com)

Clinical Bottom Line

Methylnaltrexone may provide relief for patients with opioid-induced constipation refractory to traditional laxatives.

Subcutaneous route of administration and cost may be limiting.

Case 4

You are a hospice nurse admitting an 82 year old woman with dementia who was recently discharged from a local hospital where she was admitted for pneumonia.

You are speaking with the family at the intake meeting in the long-term care facility. They are concerned because their mother is able to do much less for herself now than before she went to the hospital.

While they understand she may be near the end of her life, they are particularly concerned about what this worsening functional status might mean for her interim recovery and life-expectancy.

What would you tell them?

Recovery of Activities of Daily Living in Older Patients After Hospitalization for Acute Medical Illness

Boyd CM, Landefeld CS, Counsell SR, Palmer, RM, Fortinsky RH, Kresevic D, Burant C, Covinsky K

Jnl Amer Geriatr Soc. 2008. 56:2171-2179

Methods

Design: Secondary analysis of two RCTs of intervention to improve functional outcomes in older hospitalized medical patients between 1983-1988

Setting: tertiary care + community teaching hospital in Cleveland

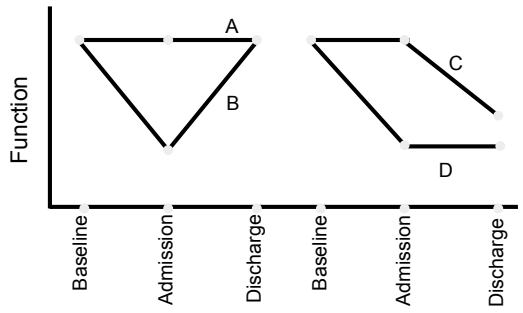
Patients: Of the 3163 patients enrolled at these two sites, 2279 (72%) met eligibility criteria: survived to hospital discharge, not completely dependent at baseline, had data at key points

Funding: NIA, Hartford Foundation, VA

Methods

- Patients or surrogates asked current functional status (admission) and 2 weeks before (baseline)
- Follow up interviews at discharge and then 1, 3, 6, and 12 months
- “Do you need help with bathing; dressing; eating; transferring from bed to chair; toileting?” (yes/no)
- Comorbidity, APACHE from medical record

Trajectories of Function

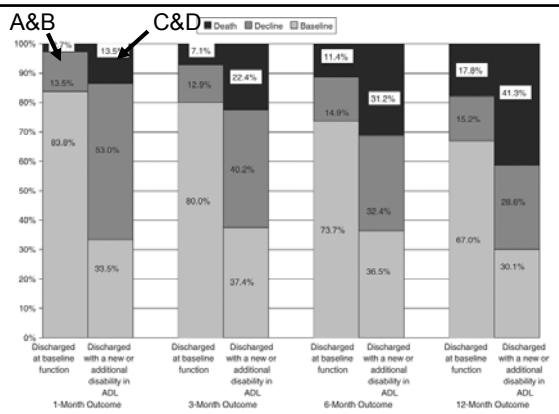


Data Analysis

- Study is an analysis of what occurred after hospital discharge
- At 1, 3, 6, and 12 months after discharge, patients were classified as:
  - Dead
  - Having worse than baseline function
  - Having recovered to baseline function
- Additional analyses to determine predictors of failure to recover function

Key Findings

- At all time points (1, 3, 6, 12 months) patients discharged with new or additional disability had worse function that those discharged at baseline level
  - For patients with baseline function at hospital discharge: 67% maintain their baseline at 1 year
  - For patients with new or addition disability: 41% 1-year mortality, less than 1/3 return to baseline



From: Jnl Amer Geriatr Soc. 2008. 56:2171-2179

Key Findings

- Group A had better outcomes than B:
  - 70% vs. 60% @ baseline @ 1 year , p=.005
- Of 30% not discharged at baseline who eventually return to baseline, recovery tends to occur in the first month
  - 62% of recovery happened in first month
  - One month recovery associated with better outcomes at 1 year, including return to baseline function and lower mortality (p<.001)
- Risk factors for not returning to baseline include metastatic cancer, cardiovascular disease, dementia, albumin <4, and age >90

Key Findings

- Is the question important?
  - Debility is highly prevalent in our populations
  - Ability to gauge recovery important for service delivery (rehab, home care, palliative care, hospice) and preparing patient and family

Key Issues

- Are the results valid?
  - Secondary data analysis
  - Some potential predictors not included in the model (e.g. depressive symptoms, regular physical activity)
  - No data on use of rehabilitative services
  - Should there have been a trajectory "E" – functional decline before admission that continues to decline to discharge

Key Issues

- What are the results?
  - For older patients discharged at baseline function, 67% are still at baseline function in 1 year
  - For older patients discharged with decreased functional ability, only 30% are at their baseline function at one year, and 41% are deceased
  - Recovery at one month is predictive of one-year outcomes

Key Issues

- Can I apply the results to my patients?
  - Patients were all $\geq$ 70 years old
  - Not a "palliative care" study but clearly applicable to many of our patients
  - Helps associate function with recovery in a way that may be easier for patients / families to comprehend

Clinical Bottom Line

New or additional functional disability at hospital discharge is associated with mortality and prolonged disability in older patients.

Case 5

As the hospice medical director it has fallen upon you to make some difficult choices given the current economic downturn. Your board of directors has given you a mandate to cut your budget, and they have noted that cutting the massage therapy program would be a good first start.

You are a strong advocate of the program, and want to keep it.

How will you prove its benefit?

Massage Therapy versus Simple Touch to Improve Pain and Mood in Patients with Advanced Cancer

Kutner JS, Smith MC, Corbin L, Hemphill L, Benton K, Mellis BK, Beaty B, Felton S, Yamasita T, Bryant L, Fairclough DL

Ann Intern Med. 2008. 149:369-379.

Methods

Design: Prospective 2-group randomized single blind trial

Setting: 15 US hospices. Participants were English-speaking adults with advanced (stage III or IV) cancer and had at least moderate pain (≥4) in weeks before enrollment

Intervention: Participants randomized to massage or simple touch

Funding: NIH; NCCAM; Mendel/Asarch Lung Cancer Family Foundation; Beeson Award; RWJ

Intervention: Massage Therapy

- Performed by LMT who had at least 6 months of experience treating patients with advanced cancer
- Effleurage, petrissage and myofascial trigger point release
- Massage therapists dictated frequency of rate, rhythm, strokes; body area massaged
- Identified 3 myofascial trigger points per session

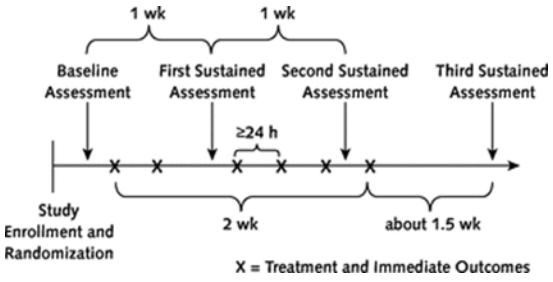
Control: Simple Touch

- Designed to control for time, attention, touch, and healing intent of intervention
- Involved placement of hands on participant for 3 minutes at bilateral locations from neck to feet
- Providers had no past body or energy work experience. Participated in a standardized hands-on training before beginning study

Outcomes

- Primary
  - —Immediate Δ Pain: Memorial Pain Assess Card
  - —Sustained Δ Pain: Brief Pain Inventory
  - —clinically significant defined as Δ 1-1.5
- Secondary
  - —Immediate: Mood, Δ heart/respiratory rates
  - —Sustained: QOL, physical and emotional symptoms, analgesic medication use
  - —Adverse events

Study overview: timing of study procedures



Annals of Internal Medicine

Key Findings

- 380 individuals randomized
  - —188 to massage, 192 to control
  - —Baseline characteristics, pain, QOL, other symptoms did not differ between groups
  - —Mean number of treatments received same in each group (4.3 vs. 3.8)

Key Findings – Primary Outcomes

- Pain: Immediate
  - —Massage v. baseline: clinically significant (-1.87 points, 95%CI -2.07 to -1.67)
  - —Massage v. Touch: statistical, not clinical (-0.90 points, 95%CI -1.19 to -0.61)
- Pain: Sustained
  - —Massage v. baseline: statistical, not clinical (-0.33 points, 95%CI –0.54 to –0.12)
  - —Massage v. Touch: no difference (0.07 points, 95% CI –0.23 to 0.37)

Key Findings – Secondary Outcomes

- Mood:
  Both statistically improved from baseline; massage statistically superior to touch
- Heart and respiratory rates:
  Decreased modestly from baseline; no between-group clinical or statistical diff.
- Emotional/Physical Symptoms, QOL:
  Both groups had statistical improvement from baseline; no between-group diff.
- Analgesic use: No statistical/clinical diff.
- Adverse events: No difference

Key Issues

- Is the question important?
  - Many patients and families ask for massage
  - Data from past studies has been inconclusive and studies of varying quality

Key Issues

- Are the results valid?
  - Extremely well designed study overall
  - No usual care control
  - Immediate post intervention assessment done by therapist, sustained data collection performed by blinded individual

Key Issues

- What are the results?
  - Massage seems to have immediately beneficial effects on pain and mood in patients with advanced cancer.
  - No difference in adverse events
  - Simple touch seems to provide a benefit to patients

Key Issues

- Can I apply the results to my patients?
  - Advanced cancer population on hospice
  - Interpret results in different ways
    - May not be tremendous benefit to massage
    - Stress healing power of touch and attention
  - If a patient feels better after massage then it is of benefit to them

Clinical Bottom Line

Massage may have immediately beneficial effects on pain and mood among patients with advanced cancer. Given the lack of sustained effects and the observed improvements in both groups, the potential benefits of attention and simple touch should be considered in this patient population.

Case 6

You are a nurse enrolling a 42 year old woman with metastatic breast cancer on home hospice services.

She is being discharge from the hospital after being diagnosed with a DVT in her right leg.

Case 6 cont'd

In reviewing her discharge medications, you note that she has been prescribed low molecular weight heparin (LMWH).

You call her oncologist's office to enquire about when she will initiate warfarin.

Case 6 cont'd

Her oncologist insists that she remain on LMWH because it is superior to warfarin in cancer patients.

LMWH is a very costly treatment!

Is it really superior to warfarin for treatment of DVTs in cancer patients?

Anticoagulation for the long term treatment of venous thromboembolism in patients with cancer

Akl EA, Barba M, Rohilla S, Terrenato I, Sperati F, Muti P, Schünemann HJ

Cochrane Database Syst Rev. 2008

Methods

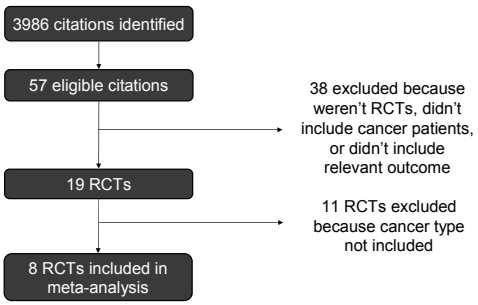
Design: Systematic review and meta-analysis of randomized, controlled trials

Search: Cochrane, MEDLINE, EMBASE, Web of Science, conference proceedings, reference lists, related articles

Outcomes: mortality, recurrent DVT/PE, bleeding, thrombocytopenia

Funding: University + Pharmaceutical

Studies Selected



Results

- LMWH is *NOT* significantly better than vitamin K antagonists at preventing death from venous thromboembolism
- There was no significant difference in bleeding or thrombocytopenia

Results cont'd

LMWH *IS* better than vitamin K antagonists at preventing recurrent venous thromboembolism.

Treatment	% of Patients with recurrent DVT or PE
Vitamin K antagonists	14%
LMWH	7%

Would need to treat 14 patients with LMWH instead of warfarin to prevent recurrent DVT or PE in one patient.

Key Issues

Is the question important?

- Cancer patients commonly get DVTs and PEs
- LMWH is significantly more expensive than warfarin: $3600 vs. $14 per month (www.healthpricer.com)

Key Issues

Are the results valid?

- Cochrane methodology
- 8 randomized controlled trials
- Quality of evidence low for mortality, moderate for recurrent venous thromboembolism

Key Issues

What are the results?

- LMWH was superior to vitamin K antagonists at preventing recurrent venous thromboembolism
- However, there was no statistically significant survival benefit

Key Issues

Can I apply the results to my patients?

- Some included trials limited entry to patients with ECOG 1 or 2, life expectancy 3+ months
- Cost may be a burden to patients and hospices: $50,000 to prevent 1 recurrent DVT/PE
- Daily injections may be a burden to some patients

Clinical Bottom Line

LMWH is superior to vitamin K antagonists at preventing recurrent DVT and PE but not death.

Case 7

You direct the inpatient palliative care consult service at your hospital.

You are unable to complete all the consults yourself, and have been trying to no avail to get funding from the hospital for a nurse to help you.

Case 7 cont'd

After last year's State of Science presentation, you showed the hospital administration the evidence that palliative care consultations reduce ICU length of stay, but they were unconvinced.

"What we really need is to reduce our hospitalization costs for patients with serious illness. If you can do that, we'll give you that nurse!"

Cost savings associated with US hospital palliative care consultation programs

Morrison RS, Penrod JD, Cassel JB, Caust-Ellenbogen M, Litke A, Spragens L, Meier DE; Palliative Care Leadership Centers' Outcomes Group

Arch Intern Med 2008 168:1783-90

Methods

Design:

- Retrospective case control
- Administrative data compared for patients who received palliative care consults and matched patients who received usual care

Study Sites:

- 8 hospitals with mature inpatient palliative care consult services
- Hospitals from different geographic locations, community and academic centers, different markets

Funding: CAPC, NPCRC, NIA

Subjects and Variables

Patients

- Received palliative care consult and LOS 7-30 days
- Patient factors abstracted from hospital databases
- PCS patients were matched to usual care patients on demographic and clinical factors

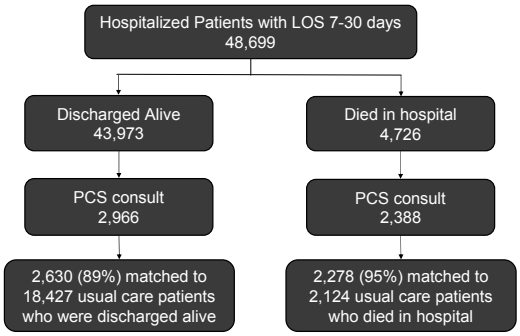
Costs

- Daily and total hospitalization costs abstracted from hospital accounting systems

Analysis

- Patients stratified by hospital site and death in hospital vs. discharge
- Propensity for getting PCS consult computed for each demographic and clinical group
- Each patient who received PCS consult propensity-score matched to 1 or more usual care patients
- Costs compared for total hospitalization as well as care up to palliative care consultation

Results



Results

Compared to usual care, PCS consultation was associated with significant cost savings

Savings associated with PCS consultation	
Patients discharged alive	$2,642 per admission
Patients who died in the hospital	$6,896 per admission

Key Issues

Is the question important?

- Showing an impact of palliative care consults on hospitalization costs is a key factor in funding hospital consult programs and health care policy

Key Issues

Are the results valid?

- Multicenter study with large number of patients
- Savings began 2 days after consult, indicating causative relationship
- Very unlikely that patient and physician preference would explain these results, given their magnitude

Key Issues

What are the results?

- Palliative care consultation reduced hospital costs
- 400 bed hospital + 500 PCS consults/yr
  = $1.3 million savings

Key Issues

Can I apply the results to my patients?

- Diverse patients, hospitals, and PCSs included in study
- All PCS were “mature”

Clinical Bottom Line

Palliative care consultation reduces hospitalization cost for seriously ill patients.

Changes to practice emerging from articles reviewed

Start

- Encouraging oncologists to include statements of pessimism in conversations about prognosis
- Getting EKGs on patients before and during methadone therapy
- Using change in functional status as predictor of outcomes for older patients
- Using these data that PC consultation reduces costs to strengthen the argument for PC services in hospitals

Changes to practice emerging from articles reviewed

Consider

- Using methylnaltrexone for opioid-induced constipation
- Using long-term LMWH to prevent recurrent DVTs and PEs in cancer patients

Changes to practice emerging from articles reviewed

Continue

- Having conversations about goals of care with patients - they improve outcomes for patients and caregivers
- Providing massage therapy to patients who want it - it is safe and may improve pain and mood in the short term

Conclusion

- Studies used rigorous methods, published in prestigious journals
- Demonstrate the efficacy of best practices in hospice and palliative care
- We have established ourselves as a recognized specialty
- The evidence continues to grow to support us

Copies of slides will be available on AAHPM website

For questions or comments:

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