Palliative Care and Hospice Research
Updates from 2017-2018

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Potential conflicts of interest have been resolved.

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- Stock/Equity (any amount) N/A
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- Speakers Bureau / Honoraria
  - Heron Therapeutics Advisory Board

Objectives

- Identify 10 of the most clinically relevant research studies conducted in 2017-2018
- Describe ways these studies could be applied to improve the way you deliver palliative care.
- Avoid putting you to sleep and point out shady work
Methods

- Summarize the key scientific presentations of the year and focus only on either clinically relevant points or information for promoting palliative care
  - AASPM “State of the Science”
  - “PC-FACS: A Year in Review”
  - “Speed Dating with Pharmacists”

Preventing Urinary Tract Infections


What They Did
- They took 308 women with recurrent cystitis and randomized them into 3 groups:
  - D-mannose (2g daily in 200mL water)
  - Nitrofurantoin (50mg daily)
  - Placebo

Why It Matters
- Overall 32% of patients had a UTI including:
  - 61% of patients in the control group
  - 20% in the nitrofurantoin group
  - 15% in the D-mannose group
- D-mannose had a better side-effect profile than nitrofurantoin
- D-mannose is less than $20 for a month’s supply
Conclusion

- Although we can never get too excited based off one small study.
- Based on efficacy and cost in this world of increasing antibiotic resistance we have a new antimicrobial hero!
- I have started recommending this to my clinical team.

What is the Benefit of Calcium Supplementation Especially to Patients with Life-Limiting Illnesses

Zhao JG, Zeng XT, Wang J, Liu L. Association Between Calcium or Vitamin D Supplementation and Fracture Incidence in Community-Dwelling Older Adults: A Systematic Review and Meta-analysis. JAMA. 2017 Dec 26;318(24):2466-2482

What They Did
- Meta-analysis of 33 randomized clinical trials containing over 51,000 patients
- Primary outcome was rate of hip fracture
- Secondary outcomes included: vertebral fractures, nonvertebral fractures, and total fractures

Why It Matters
- No association found between calcium and vitamin D supplementation and either hip fracture, vertebral fracture, nonvertebral fracture, or total fracture
Conclusions
• In this meta-analysis of randomized clinical trials, the use of supplements that included calcium, vitamin D, or both compared with placebo or no treatment was not associated with a lower risk of fractures among community-dwelling older adults.

My Conclusions

Benefits and Burdens of Codeine


What They Did
• Observational study using stroke registry examining 921 patients with either ischemic stroke, hemorrhagic stroke, or transient ischemic attack
• Examined opioid use within 48 hours after stroke and assessed for complications during acute hospitalization

Why It Matters
• Patients receiving codeine containing opiates were associated with an increased risk of pneumonia (OR 3.8)
• Patients receiving codeine containing opiates had increased risk of worsening stroke symptoms (OR 2.7)
• There was no relationship between any of the other opiates and complications or worse outcomes post stroke

Codeine is Associated With Poor Prognosis in Acute Stroke.
**Conclusions**

Use of codeine-containing analgesics is associated with a poorer short-term prognosis and an increased occurrence of complications in the acute phase after a stroke. The highly significant findings suggest that codeine has a negative effect on acute stroke patients.

**My Conclusions**

Codeine is Associated With Poor Prognosis in Acute Stroke.

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**How Effective Is CPR on Meaningful Outcomes**

Effect of Bag-Mask Ventilation vs Endotracheal Intubation During Cardiopulmonary Resuscitation on Neurological Outcome After Out-of-Hospital Cardiorespiratory Arrest: A Randomized Clinical Trial.

**What They Did**

- Multicenter randomized clinical trial comparing BMV with ETI in 2043 patients without-of-hospital cardiopulmonary arrest
- Primary outcome was a favorable neurologic status at 28 days, secondary outcomes included both survival to hospital admission and discharge

**Why It Matters**

- Favorable functional survival at day 28 was 44 of 1018 patients (4.3%) in the BMV group and 43 of 1022 patients (4.2%) in the ETI group.

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**Effect of Bag-Mask Ventilation vs Endotracheal Intubation During Cardiopulmonary Resuscitation on Neurological Outcome After Out-of-Hospital Cardiorespiratory Arrest: A Randomized Clinical Trial**

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### James Bond's CPR Skills

**Casino Royale**

**Table 2. Secondary Outcomes in Patients Included in the Study**

<table>
<thead>
<tr>
<th>Outcome</th>
<th>No. of Patients (%)</th>
<th>Proportion Difference (95% CI)</th>
<th>P VALUE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intent to-Treat Population</td>
<td>1544 (5)</td>
<td>1552 (5)</td>
<td>0.1 (-1.3 to 2.1)</td>
</tr>
<tr>
<td>Survival at 28 d</td>
<td>55 (3.6)</td>
<td>54 (3.2)</td>
<td>0.0 (-1.8 to 2.1)</td>
</tr>
<tr>
<td>CPC*</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I. Good cerebral performance</td>
<td>35 (3.4)</td>
<td>37 (3.6)</td>
<td>0.0 (-1.8 to 2.1)</td>
</tr>
<tr>
<td>II. Moderate cerebral disability</td>
<td>9 (0.7)</td>
<td>6 (0.5)</td>
<td>0.0 (-1.8 to 2.1)</td>
</tr>
<tr>
<td>III. Severe cerebral disability</td>
<td>4 (0.4)</td>
<td>7 (0.7)</td>
<td>0.0 (-1.8 to 2.1)</td>
</tr>
<tr>
<td>IV. Coma or vegetative state</td>
<td>7 (0.7)</td>
<td>4 (0.4)</td>
<td>0.0 (-1.8 to 2.1)</td>
</tr>
<tr>
<td>V. Death</td>
<td>962 (54.6)</td>
<td>968 (44.7)</td>
<td>0.0 (-1.8 to 2.1)</td>
</tr>
<tr>
<td>Survival to hospital admission</td>
<td>294 (20.9)</td>
<td>333 (22.8)</td>
<td>-0.7 (-7.7 to 6.3)</td>
</tr>
<tr>
<td>Return of spontaneous circulation</td>
<td>348 (14.2)</td>
<td>357 (13.3)</td>
<td>-0.7 (-7.7 to 6.3)</td>
</tr>
<tr>
<td>Per-Protocol Analysis</td>
<td>1544 (5)</td>
<td>1552 (5)</td>
<td>0.1 (-1.3 to 2.1)</td>
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<tr>
<td>II. Moderate cerebral disability</td>
<td>8 (0.6)</td>
<td>6 (0.4)</td>
<td>0.0 (-1.8 to 2.1)</td>
</tr>
<tr>
<td>III. Severe cerebral disability</td>
<td>4 (0.4)</td>
<td>7 (0.7)</td>
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<td>IV. Coma or vegetative state</td>
<td>7 (0.7)</td>
<td>4 (0.4)</td>
<td>0.0 (-1.8 to 2.1)</td>
</tr>
<tr>
<td>V. Death</td>
<td>941 (54.6)</td>
<td>802 (44.6)</td>
<td>0.0 (-1.8 to 2.1)</td>
</tr>
<tr>
<td>Survival to hospital admission</td>
<td>289 (29.1)</td>
<td>322 (33.1)</td>
<td>-0.1 (-7.6 to 6.6)</td>
</tr>
<tr>
<td>Return of spontaneous circulation</td>
<td>342 (18.4)</td>
<td>377 (10.0)</td>
<td>-0.1 (-7.6 to 6.6)</td>
</tr>
</tbody>
</table>

* CPC: Cerebral Performance Category
Conclusions

- Among patients with out-of-hospital cardiopulmonary arrest, the use of BMV compared with ETI failed to demonstrate noninferiority or inferiority for survival with favorable 28-day neurological function, an inconclusive result.

My Conclusions

CPR is about as overrated as:


The Role of Cannabis in Palliative Medicine

- A prospective study of 2736 adults at least 65 years of age who received medical cannabis between 2015-2017.
- Outcomes included pain intensity, quality of life, and adverse events measured at 6 months.

What They Did

- 93.7% of the respondents reported improvement in their condition.
- Pain level was reduced from a median of 8 on a scale of 0–10 to a median of 4.
- Most common adverse events were: dizziness (9.7%) and dry mouth (7.1%).
- After six months, 18.1% stopped using opioid analgesics or reduced their dose

Why It Matters

Epidemiological characteristics, safety and efficacy of medical cannabis in the elderly.

Conclusions

- The study concluded therapeutic use of cannabis is safe and efficacious in the elderly population.
- Cannabis use may decrease the use of other prescription medicines, including opioids.
- More research is needed including randomized clinical trials is clearly needed.

My Conclusions


Glucose Control at End-of-Life


Hypoglycemia in Hospice Patients With Type 2 Diabetes in a National Sample of Nursing Homes

What They Did

- Retrospective cohort study of 20,329 patients in VA hospital system over 65 years old with DM II who had been hospitalized
- Primary outcome of hypoglycemia (glucose <70) with secondary outcomes severe hypoglycemia (BG <50) and hyperglycemia (BG >400)

Why It Matters

- 1 in 9 nursing home patients with type 2 diabetes experienced hypoglycemia (glucose <70 mg/dL) while 1 in 20 experienced severe hypoglycemia (glucose <50mg/dL) while on hospice.
- The risk of hypoglycemia was highest among patients treated with insulin, 1/3 of whom experienced hypoglycemia.
- The cumulative incidence of hyperglycemia (glucose >400 mg/dL) at 180 days was 9% in all patients.
Conclusions

• Hypoglycemia is still a major challenge in patients with life-limiting illness cared for in nursing homes. Hypoglycemia is actually more prevalent than hyperglycemia as defined in this study.

• Clinicians need to be vigilant in reducing diabetes medication in patients with DM II with very poor prognoses

My Conclusions

Hypoglycemia in Hospice Patients With Type 2 Diabetes in a National Sample of Nursing Homes


Evidence-Based Ways to Evaluate Cognitive Status

Minami T, Yamada M, Furuda R. Predicting the ability of elderly diabetes patients to acquire the insulin self-injection technique based on the number of animal names recalled. J Diabetes Investig. 2017.

Predicting the ability of elderly diabetes patients to acquire the insulin self-injection technique based on the number of animal names recalled

What They Did

• They prospectively enrolled 57 Japanese patients and compared their Mini-Mental State Examination to Verbal Fluency Tests (including animal recall).

Why It Matters

• Multivariate logistic analysis showed that the number of animal names recalled was the most reliable predictor of the ability to acquire the insulin self-injection technique within 1 week.

• A figure of 11 animal names predicted a successful acquisition, with a sensitivity of 73% and a specificity of 91% being observed (area under the curve 0.87, 95% confidence interval 0.76–0.97, P < 0.01).
Conclusions

• The number of animal names recalled in 1 min was the most useful indicator of the ability of elderly diabetes patients to learn to manage insulin self-injection therapy within 1 week. The cut-off value was 11 animal names.

Minami T, Yamada M, Furuta R. Predicting the ability of elderly diabetes patients to acquire the insulin self-injection technique based on the number of animal names recalled. J Diabetes Investig. 2017.

How Useful Are Topical Antimicrobials?


Laceration Management

What They Did

• Reviewed the literature on wound healing. Previously one study had shown benefits of antimicrobials but questions have emergency if it was simply a moist environment vs the antimicrobial.

Why It Matters

• In a study comparing white petrolatum ointment to bacitracin, there was no significant difference in wound infection rate (2% vs. 0.9%, p = 0.37).
• In a different study, 30 patients were identified who had to have two elective, sterile excisional procedures on the same day. In each patient, one wound was covered with antibiotic and the other with white petrolatum. There was no significant difference seen in wound healing between the two groups.
Conclusions

- Most topical wound agents are of limited benefit and a petrolatum ointment may be as effective as a topical antimicrobial
- These are small studies and little evidence exists either way.

My Conclusions


Best Study 2017-2018

VOTE AMERICA
EVEN VOTE COUNTS