Rapid Response Teams and End-of-Life Care

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Conflicts of Interest

• To place your ad here, please call 416-340-4800 x8577
You are on service with the RRT...9pm

- 65M - Metastatic NSCLC
  - Relapse - no chemo/radio option
  - Pneumonia - 3d abx
- RRT - RR > 30, O₂ sat 90% on 40% FM
  - Short sentences
  - After discussion - no ICU, no intubation
  - RRT to follow for 24h
- Did we improve his EOL care?
Does the RRT improve care?

- Improvements in single-centre studies
- Unclear effect in multicentre RCT, meta-analyses
- What about EOL care?

Jones et al. NEJM 2011;365:139-46.
What about EOL Care?

“I’m right there in the room, and no one even acknowledges me.”
RRT and NFR/DNR Orders

- Retrospective review of RRT activations
  - NFR order “would have been appropriate” in 23%

RRT and NFR/DNR Orders

- Retrospective analysis of 105 deaths
  - 95% were NFR (DNR) at time of death
  - 35 seen by RRT

RRT and NFR/DNR Orders

- **MERIT**
  - 90% of deaths had NFR order
  - MET hospitals
    - Higher proportion of NFR orders after event-free emergency calls (8 vs 3%)
    - 10x incidence of NFR orders after event-free calls

RRT, NFR/DNR Orders, and CPR

- Reduced ineffective CPR
  - Increased DNR orders
  - Higher survival post-arrest
  - No change in hospital mortality

RRT and DNR/NFR Orders

• Multicentre prospective study
  – 652 RRT calls over 1 month
    • 10.8% followed by new DNR order
      – Older, medical patients
      – More likely to occur 5pm to 8am
      – 48% died in hospital
      – 22% discharged home
RRT and EOL Care

• Retrospective pre-post study of ward deaths
  – 61/197 (31%) seen by RRT
  – Post-RRT changes
    • Increases in opioid use, pain scores, chaplaincy
    • Reduced “subjective suffering”
  – Same benefits seen whether or not RRT deployed

RRTs and EOL Care

- Review of 300 consecutive RRT referrals
  - 3 Academic Hospitals
  - 90% Full Code at time of referral
    - 90 (33%) admitted to ICU within 48h
    - 27 (9.3%) had ward family meeting within 48h
      - 24 (8.3%) had change in resuscitation order (DNR)
  - 25% died during admission

RRTs and EOL Care

• 24 (8.3%) – Family meeting, new DNR
  • 80% called for classic ABC criteria, 63% died

<table>
<thead>
<tr>
<th>Time</th>
<th>Palliative Care</th>
<th>Spiritual Care</th>
<th>PRN Opioids</th>
<th>PRN Sedatives</th>
</tr>
</thead>
<tbody>
<tr>
<td>Next 48h</td>
<td>17%</td>
<td>8%</td>
<td>17%</td>
<td>8%</td>
</tr>
<tr>
<td>Entire Admission</td>
<td>29%</td>
<td>12%</td>
<td>75%</td>
<td>42%</td>
</tr>
</tbody>
</table>

• 2 patients died without any EOL meds or consultations

RRTs and EOL Care

- Retrospective review of 450 deaths at 3 hospitals
  - 50 in 2005 at each site
  - 100 in 2010 at each site
- Pathways of care
  - ICU throughout stay
  - Palliative throughout stay
  - Admitted to ward >24h with “full resuscitation” order
- Comparisons
  - 2005 vs. 2010 – Availability of RRT
  - RRT vs. no RRT – Use of RRT in 2010

RRTs and EOL Care

- Patients on ward >24h + FC
  - RRT called for 30% of patients
  - RRT involved in 11.1% of pt/family meetings

  2005 vs. 2010
  - No difference in proportion having pt/family meetings on ward (50% vs. 56%)
  - No difference in proportion having new DNR on ward (49% vs. 56%)

Effect of an RRT Consultation

• Comparison of RRT vs. No RRT (2010)
  • Similar use of opioids (~77%), chaplaincy (~35%)
  • Fewer PC consults (30% vs. 56%)
  • Fewer PRN sedative orders (44% vs. 65%)
  • Similar likelihood of ICU admission, CPR at death

Availability of RRT

- Comparison of 2005 vs. 2010
  - More PC consults (only among non-RRT patients)
  - Stepwise multivariable analysis
    - Year of death not an independent predictor of ICU admission
  - Presence of dementia, metastatic cancer, age >80
    - 20% among ICU decedents in 2005
    - 40% among ICU decedents in 2010

Summary

- Hospital mortality often preceded by RRT
  - Up to 1/3 of deaths, 1/4 of RRT calls
- The RRT is involved in decisions to change goals of care
  - ~10% of RRT Calls
- Unclear whether RRT increasing discussion of goals, or simply taking over role from MRP
- Reduces aggressive care, but may not improve palliative care
  - RRTs miss many opportunities to facilitate EOL care
- Secular trend towards better EOL care confounds before-after studies
Ethics

How important are ethics in today's society?
Should the RRT manage EOL Care?

• Should the RRT manage...
  • CHF?
  • Stable early sepsis?
  • Hypovolemia?
  • PE?

• Shared responsibility?
RRT and Bed Availability

• Retrospective review of 3494 RRT calls
  – RRT call when reduced bed availability
    • Reduced likelihood of ICU admission- 33%
    • Increased likelihood of change in goals of care- 90%
    • No change in hospital mortality

• Full ICU = DNR?
• Empty Beds = Vacancy?

Future Directions

• EOL Checklists?
• Communication training?
• Closer collaboration with palliative care?
Thank you for your attention!

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