Teaching EBM During Clinical Rounds

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AU/UGA Medical Partnership
Conflicts of Interest

• We have no financial ties with industry that pose a conflict of interest regarding the content of this presentation

• We will not be discussing “off label” uses of any medications or devices

• Image copyrights are retained by their original creators, publishers, etc.
Our Aims …

• Introduce ‘teaching slices’
• Identify main skills for EBM
• Explore slices for teaching EBM
• Have some fun!
Before we begin ...

- decaf
- half-caf
- regular
- Irish coffee
- espresso
- double espresso

Found at www.funri.com
& In case you missed it ...
Teaching in ‘slices’ …

- Teaching while working can occur one ‘slice’ at a time, rather than ‘whole pie’
- Slice = short, time-efficient; yet → learn cumulatively
- “Bite off less than you can chew”
Teaching EBM ‘Slices’

• Buzz with neighbor
• When they work well, what specifically makes them work?
• When they don’t work as well, what specifically …?
• Report in 2 – 3 min
Teaching EBM Slices

- This
- That
Teaching EBM in slices
Evidence alone does not decide – combine with other knowledge and values.
Mrs. Jones was transferred out to us from CVICU after urgent cath for severe CP & anterior ST elevations; normal cath and repeat EKG had diffuse ST elevations …

**Resident:** In addition to NSAID, I plan to start colchicine

**Me:** Hmmm … why don’t you bring the best evidence about this tomorrow for the team

*Why do faculty sometimes do this???*
Mrs. Jones was transferred out to us from CVICU after urgent cath for severe CP & anterior ST elevations; normal cath and repeat EKG had diffuse ST elevations …

**Resident:** In addition to NSAID, I plan to start colchicine

**Me:** Really … I don’t recall anything about colchicine & pericarditis

**Resident:** It’s common practice to use colchicine to prevent recurrence

**Me:** Really! Wow, do you recall any specifics about the added benefit?

**Resident:** No, but we always use it on Cards …
What If Our Cupboard Is Bare?
(i.e. we don’t know everything ... like answers to their questions!)

- Affective Responses & Losing Control
- Or ... Remain Ego Stable & Shift into a Cognitive Response
- Embrace that c/w ‘ Adaptive Expertise’
  - Allows experts to continuously learn during the process of problem-solving
  - Unanticipated challenges become opportunities for learning

Physician Perceptions of Expert Professionals,
Acad Med. 2012 87(10): 1413-17
Case 2

- 27M, fever, malaise, night sweats x 2 wk
- Previously well
- T 38.6 C
- Pharynx: no pus
- Nodes: cervical
- Spleen tip 4 cm below left costal margin
- ↑WBC, nl differential
- RBC, plts normal
- Bilirubin, AST, ALT, ALP, and GGT are normal
- ‘Monospot’ non-reactive
- Urine: normal
## Test Accuracy: Splenomegaly

<table>
<thead>
<tr>
<th>Maneuver (No. of Studies)</th>
<th>LR+ (95% CI)</th>
<th>LR– (95% CI)</th>
<th>DOR (95% CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supine 1-handed palpation (4)</td>
<td>8.2 (5.8-12)</td>
<td>0.41 (0.30-0.57)</td>
<td>22 (13-38)</td>
</tr>
<tr>
<td>Percussion of Traube space (3)</td>
<td>2.3 (1.8-2.9)</td>
<td>0.48 (0.39-0.60)</td>
<td>4.8 (3.2-7.3)</td>
</tr>
</tbody>
</table>
Therapeutics

Review: Enteral nutrition reduces mortality, multiple organ failure, and systemic infection more than TPN in acute pancreatitis

Hospitalists ★★★★★★ Gastroenterology ★★★★★★

About Star Ratings


Question

What is the relative effectiveness of enteral nutrition (EN) and total parenteral nutrition (TPN) in patients with acute pancreatitis?

Review scope

Included studies compared EN (delivered through a nasoenteric feeding tube placed into the jejunum at or below the level of ligament of Treitz) with TPN (delivered through a central or peripheral venous line) in patients with acute pancreatitis diagnosed by clinical presentation and increased serum amylase. Studies also had to include a recognized assessment of severity of pancreatitis. Outcomes included mortality, multiple organ failure (MOF), systemic infection, operative intervention, local septic complications, other local complications, and length of hospital stay.

Review methods

MEDLINE (to wk 3, Nov 2008), EMBASE/Excerpta Medica (to wk 49, 2008), Cochrane Library (4th quarter, 2008), SciSearch, ClinicalTrials.gov,
Enteral nutrition (EN) vs total parenteral nutrition (TPN) for acute pancreatitis

<table>
<thead>
<tr>
<th>Outcomes</th>
<th>Number of trials (n)</th>
<th>Weighted event rates</th>
<th>RRR (95% CI)</th>
<th>NNT (CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mortality</td>
<td>8 (346)</td>
<td>7.8%</td>
<td>16%</td>
<td>50% (9 to 72)</td>
</tr>
<tr>
<td>MOD</td>
<td>6 (278)</td>
<td>19%</td>
<td>35%</td>
<td>45% (19 to 63)</td>
</tr>
<tr>
<td>Systemic infection</td>
<td>7 (250)</td>
<td>11%</td>
<td>31%</td>
<td>61% (35 to 77)</td>
</tr>
<tr>
<td>Operative intervention</td>
<td>7 (316)</td>
<td>14%</td>
<td>34%</td>
<td>56% (33 to 71)</td>
</tr>
<tr>
<td>Local septic complications</td>
<td>5 (246)</td>
<td>13%</td>
<td>18%</td>
<td>26% (35 to 60)</td>
</tr>
<tr>
<td>Other local complications</td>
<td>5 (230)</td>
<td>19%</td>
<td>27%</td>
<td>30% (13 to 57)</td>
</tr>
<tr>
<td>Mean</td>
<td></td>
<td></td>
<td></td>
<td>-2.37 (-7.18 to 2.44)</td>
</tr>
<tr>
<td>Mean difference (CI)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Length of hospital stay (d) 4 (145) 71 74

*MOP = multiple organ failure; other abbreviations defined in Glossary. RRR, NNT, and CI calculated from data in article using a fixed-effect model. Length of follow-up in trials not reported.

Despite these limitations, the meta-analysis by Al-Omran and colleagues provides compelling support for the routine use of EN in patients with acute pancreatitis. Current recommendations advocate early refeeding to reduce the catabolic state and metabolic disturbances and to aid in recovery (2). In patients with mild pancreatitis, oral refeeding can be resumed once acute symptoms have resolved. In patients with moderate- to severe pancreatitis, early nutritional support using the enteral route should be the primary method of providing nutrition and can be achieved effectively with nasojejunal tube feeding using an elemental or semi-elemental formula.

TPN might still have a role in the management of acute pancreatitis as second-line treatment for select patients in whom EN has failed or who cannot tolerate enteral feeding due to severe ileus.

Shahnaz Sultan, MD, MHS
Chris E. Forsmark, MD
University of Florida
Gainesville, Florida, USA

References
Case 4

- 53M, L neck lump
- Previously well
- VS, general – nl
- Oropharynx: nl
- Node: L anterior cervical, 2 x 2.5 cm
- Remainder normal

- CBC, differential, smear – normal
- Chemistries – nl
- CXR – nl
Findings of serious disease:

<table>
<thead>
<tr>
<th>Finding</th>
<th>LR+</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age ≥40 years</td>
<td>2.4</td>
</tr>
<tr>
<td>Weight loss</td>
<td>3.4</td>
</tr>
<tr>
<td>Generalized pruritus</td>
<td>4.9</td>
</tr>
<tr>
<td>Supraclavicular nodes</td>
<td>3.2</td>
</tr>
<tr>
<td>Node size ≥ 9 cm²</td>
<td>8.4</td>
</tr>
<tr>
<td>Node texture = hard</td>
<td>3.2</td>
</tr>
<tr>
<td>Node mobility = fixed</td>
<td>10.9</td>
</tr>
</tbody>
</table>
### ‘Lymph Node Score’

<table>
<thead>
<tr>
<th>Finding</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age &gt; 40 years</td>
<td>+5</td>
</tr>
<tr>
<td>LN tenderness</td>
<td>-5</td>
</tr>
<tr>
<td>LN size</td>
<td></td>
</tr>
<tr>
<td>Size &lt; 1 cm²</td>
<td>0</td>
</tr>
<tr>
<td>Size 1 – 3.99 cm²</td>
<td>+4</td>
</tr>
<tr>
<td>Size 4 – 8.99 cm²</td>
<td>+8</td>
</tr>
<tr>
<td>Size ≥ 9 cm²</td>
<td></td>
</tr>
<tr>
<td>Generalized pruritus</td>
<td>+4</td>
</tr>
<tr>
<td>Supraclavicular node +</td>
<td>+3</td>
</tr>
<tr>
<td>Lymph node is hard</td>
<td>+2</td>
</tr>
<tr>
<td>Correction factor</td>
<td>-6</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Score Result</th>
<th>LR</th>
</tr>
</thead>
<tbody>
<tr>
<td>≤ - 3</td>
<td>0.04</td>
</tr>
<tr>
<td>-2 or -1</td>
<td>0.1</td>
</tr>
<tr>
<td>0 – 4</td>
<td>~1.0</td>
</tr>
<tr>
<td>5 or 6</td>
<td>5.1</td>
</tr>
<tr>
<td>≥7</td>
<td>21.9</td>
</tr>
</tbody>
</table>

Higher the score, the more likely the patient’s lymphadenopathy is due to serious underlying disease like cancer or chronic infection.
Mr. Cox – 80y/o

- Exasperated daughter brought to ED because “he hurts all over and can’t hardly move”
- Doctors & PT not helping with his C3-4 spinal stenosis (mod to severe) or known bilat rotator cuff disease
- Hgb 11; Na 126; LFTs nl, but Alb 2.2
- ESR = 120
- RF = 774 IU/ml
- ED also got Anti-CCP = 300U/ml (nl <3)
Mr. Cox – 80y/o

- New Rheum Fellow called by ED …
  “Sounds like he’s got RA; we’ll see him in consult”

- Overnite Admitting Assessment: RA, needs NHP

- **At 7:30am:** Diffuse aches, especially in shoulders and some hips; Fell on ice & broke left humerus; managed with immobilization; Declining, especially past 2months

- Retired machinist for John Deere; Lives alone; HTN; DM; No h/o periodic joint swelling
Mr. Cox – 80y/o

• 40# wt loss past 6mon
daughter wonders if: “cause he can’t barely feed himself”

• Difficulty raising hands out of lap; hurts to gently shake hands; some thenar wasting; Dupuytren contracture

• Moderate tenderness across shoulder muscles, but NT with gentle passive ROM; no effusions or warmth

• No other joint warmth, swelling, or chronic changes of RA; DTRs 2+

• We started therapeutic trial 15mg pred/d; CXR; & requested outside cervical MRI
Mr. Cox – 80y/o

Rheum Evaluation: Believes all from spinal stenosis, rotator cuff, fracture, immobility. Agrees no synovitis, but “worried about the high Anti-CCP so consider starting hydroxychloroquine”. “Doubt PMR.”

Results of Therapeutic Trial
• Next morning: Best night of sleep in long time. Helped feed self. Participated with PT evaluation
• Following morning: bright affect and feeds self; can raise hands to shoulders without pain
• Following days – while awaiting Rehab placement – eating like a horse; takes laps in hallways with walker
• Daughter tearfully exclaims: “It’s a miracle”
Think Out Loud with Me …

WHY was it so hard for our rheum colleagues to let go of RA?

What aspects of diagnostic reasoning in this case would you teach about?
Mr. Cox – 80y/o

- Anti-CCP has a sensitivity of 58% and specificity of 96%
- LR(+) = 14.5
- Remember LR > 10 Result in large changes in post-test probability

Systematic Review: Accuracy of Anti-CCP for Diagnosing RA
Ann Int Med 2010; 152:456-464
Pre-test probability 1%

Pre-test probability 40%

Post-test probability >90%

Post-test probability ~10%
Assess IVC Volume

- VS: HR, BP, supine & postural
- Mucous membranes
- Skin temperature, color, feel, pattern
- ‘Capillary refill’
- Axillary moisture
- Mentation, urine output
- Passive leg elevation*

- BUN, Cr, ratio
- U [Na]
- FE Na
- Central venous pressure
- Pulmonary capillary wedge pressure

→ Each has limits, so use composite of all
Passive Leg Elevation

- Change in cardiac output: LR+ 11, LR- 0.13
- Change in pulse pressure: LR+ 3.6, LR- 0.45
Edema is the abnormal collection of excess fluid within the interstitial spaces in tissues; can occur in either or both the systemic and pulmonary micro-circulatory systems.

Edema can result from:
1. altered hydrostatic pressures,
2. altered oncotic pressures,
3. altered capillary permeability,
4. altered ISC contents,
5. altered lymphatic drainage.
Assess Status: ICF Water

Serum sodium concentration:

\[ [\text{Na}^+] \approx 140 \text{ mEq/L} \]

(Concentration does not equal mass)

- Normal sodium concentration means normal amount of water in ICF
- High \([\text{Na}^+] = \text{low amount of ICF water}\)
- Low \([\text{Na}^+] = \text{high amount of ICF}\)
Assess Body Fluid Status

- ECF volume?
- ICF water?
- Classify:
- Caveats:
  - Estimate
  - Re-examine
  - Re-test
- Get help
Hedge Apples, Horse Apples, Osage Oranges
EBM Slices Plus …

• Be Present

• 1 on 1 on 1 on 1

• Build enduring clinical skills

Will create opportunity to use teaching slices
The Word ‘Coach’

Arises from horse-drawn wagons or carriages (huh???)

• To help take or move someone from where they are to where they want to be

• It’s a process of guiding to promote improvement
Coach from Kocs, Hungary
Clinical Coaching

• Helps take or move someone from *where they are to where they want to be*

• It’s a guiding process to promote improvement

• Focused on improving performance of *specific skills/tasks/capabilities*

• A shift from Assessment *of* Learning to Assessment *for* Learning

*Chris Watley, MD*

*London, Ontario*
Evidence alone does not decide – combine with other knowledge and values.
• Believe in teaching slices
  (slices over time = whole pies)
• Modulate affective responses when we don’t know
• Watch & listen for clinical uncertainty or disagreement
• Patient-centered teaching
• Don’t whack the mole
• Start somewhere, anywhere, but not everywhere

**Taking flight with ‘slices’ ...**