**Case Based Learning – Fever, Sepsis, Shock**

 **Case**

55M quadriplegic 2/2 remote CSpine injury s/p MVC contracted limbs, nonverbal at baseline (med students’ favorite ☺), with PEG tube, recurrent UTIs, sent from NH for tachycardia, tachypnea. On arrival, pt moans (unclear baseline, no HHA) and groans when you move or touch him, feels warm and is cachectic with all limbs contracted and you cannot extend them. As the nurse places him on a monitor, you notice his HR is 125, RR 32, O2 sat 95% on RA, BP 100/60.

1. Briefly, what is the differential (think systems, not diagnoses)?
2. What is this patient’s qSOFA score? What old category of sepsis is he?
3. What are you looking for in your physical exam?
4. What should you do next for this patient (triage your actions)?
5. If you have difficulty getting an IV, what steps can you take?
6. What labs and imaging would you want for this patient?
7. How will you obtain the urine for this patient?
8. After you do this, if the nurse tells you it looks “thick like pus”, 2 next steps?
9. Are there special considerations with regards to antibiotics in this patient?
10. When would you consider starting this patient on vasopressors?

The landmark paper for sepsis care “Early Goal-Directed Therapy in the Treatment of Severe Sepsis and Septic Shock” was published in 2001 in the NEJM. Since this time there have been three landmark papers (PROMISE, ARISE, PROCESS) that have prospectively analyzed the “Rivers protocol”.

We will be discussing these papers and the original paper. Feel free to read them, although this is not required (though likely in your career you will at some point) as well as the links below to come up with your opinions on the following questions (and more importantly how you will act as a doctor in the future for these patients).

1. What are the main interventions in the EGDT? How did this change sepsis?
2. What differentiates EGDT and “usual care”? Has this changed 2001 to now?
3. What interventions were not done in the prospective studies usual care vs. EGDT? Did 90 day mortality change?
4. What is the “River’s effect” and is it important that it was a single center trial?
5. What were the limitations to the trilogy of prospective studies?
6. What would you tell patient’s families if they ask why are you doing this?

**SUGGESTED READING**

Original Papers:

EGDT: <http://www.nejm.org/doi/full/10.1056/NEJMoa010307#t=article>
PROCESS: <http://www.nejm.org/doi/full/10.1056/NEJMoa1401602#t=article>
ARISE: <http://www.nejm.org/doi/full/10.1056/NEJMoa1404380#t=article>
PROMISE: <http://www.nejm.org/doi/full/10.1056/NEJMoa1500896#t=article>

FOAM Discussion of Papers:

EGDT: <http://lifeinthefastlane.com/ccc/early-goal-directed-therapy->in-sepsis/

<http://www.wessexics.com/The_Bottom_Line/Review/index.php?id=3665078336903245716>

<https://www.wikijournalclub.org/wiki/Rivers_Trial>

PROMISE: <http://rebelem.com/the-protocolised-management->in-sepsis-promise-trial/

<http://pulmccm.org/main/2015/randomized-controlled-trials/promise-trial-for-sepsis-usual-care-3-goal-directed-therapy-0/>
https://www.wikijournalclub.org/wiki/ProMISe

ARISE: <http://emcrit.org/podcasts/arise-trial-sepsis->2014/
http://www.wessexics.com/The\_Bottom\_Line/Review/?id=6537087643889653701

https://www.wikijournalclub.org/wiki/ARISE

PROCESS <https://blog.essentialsofem.com/2014/03/18/process-trial-is-here/> (video)
http://wessexics.com/The\_Bottom\_Line/Review/index.php?id=4216440509062239325

https://www.wikijournalclub.org/wiki/ProCESS