PROGNOSIS MODULE

Objectives:

At the end of this module, learners will be able to determine and demonstrate whether a clinical article describing the clinical course and prognosis of a specific condition has drawn conclusions that are both valid (true) and applicable (feasible) in one's own clinical practice/patient in question.

Clinical Scenario:

You have just started your Pediatric Intensive Care Unit (PICU) rotation. 10-minutes into morning rounds code blue alarm went off on the surgical floor and the medical team went and attended to a 15 year old patient in cardiopulmonary arrest. The patient was tracheally intubated, resuscitated with return of circulation and was brought down to the PICU for further care.

As the assigned resident, you gathered history on this patient and started entering orders. You found that the patient was previously healthy until 2 days of admission when he started developing symptoms and signs of increasing respiratory distress. He was admitted to the hospital the night before he coded with bilateral pneumonia. Overnight, his fever was persistent, heart rate was in the 160's and his pulse-blood pressure was widening with diastolic pressures in the 20's-30's the morning he coded.

Following intubation, resuscitation and mechanical ventilation, you obtained a blood gas analysis that revealed a pH of 6.9, PCO2 of 29, PO2 of 307, a bicarbonate level of 14 and lactate of 12. When reassured with the patient PO2, the pompous PICU fellow argued that such high PO2 "may not be a good thing." That what you have learned, likely in the "NICU" is yesterday's news and you better get on your "A game" and check out the literature. She tells you that she would like to pursue and present the correct information about PO2 level following cardiac arrest tomorrow in morning rounds.

You decided not to freak out, as you have been to EBM sessions before and all that you need to do is to look for literature on the subject. You go to MEDLINE at the National Library of Medicine website via PubMed. You click on "clinical queries" section and you type the terms "cardiac arrest", "resuscitation", and "oxygen" and choose "prognosis" and "narrow." You find an article titled "Association Between Arterial Hyperoxia Following Resuscitation From Cardiac Arrest and In-Hospital Mortality." Eureka!

Attachments and teaching tools:

1. Kilgannon JH, Jones AE, Shapiro NI, Angelos MG, Milcarek B, Hunter K, Parrillo JE, Trzeciak S; Emergency Medicine Shock Research Network (EMShockNet) Investigators. Association between arterial hyperoxia following resuscitation from cardiac arrest and in-hospital mortality. JAMA. 2010 Jun 2;303 (21):2165-71.
2. Guyatt G, Rennie D, Meade MO, Cook DJ. Users' Guides to the Medical Literature: A Manual for Evidence-based Clinical Practice. 3rd ed. New York, NY: McGraw-Hill; 2015.

a. Guyatt G, Jaeschke R, Wilson MC, Montori VM, Richardson WS. What is Evidence-Based Medicine Chapter 2, Pgs 7-14
b. Randolph AG, Cook DJ, Guyatt G. Prognosis Chapter 20, Pgs 421 – 429.

3. Critical appraisal form for an article on prognosis.