

# Marco's Questions

Dec 7<sup>th</sup>, 2012

## Question 1

Little Johnny “football” is a 3 year old male who was brought to your Emergency room by his parents. They have noticed that Johnny started feeling ill only 5 hours before presentation. Mom has noticed that Johnny is breathing rapidly. He has been over all fuzzy and inconsolable. Dad also states that Johnny’s appetite has decreased as he did not take a bite of his dinner. His triage vitals are as follows Temp 39.8 HR 150’s BP 100/80 RR 50 with no recorded O2 sats. On initial examination he looks tachypneic, diaphoretic, tachycardic, and lethargic. You also notice that he has increase drooling. He does not want to lay flat in bed, but sits with his chest leaning forward. His neck is hyperextended. There is presence of intercostal as well as abdominal muscle retractions. He has a “muffle voice” when he tries to communicate with parents. Lastly Johnny is making a sound during inspiration each time he takes a breath. There are no Labs drawn yet. The medical staff is concern about Johnny’s wellbeing as he might win the Heisman in the near future. What is your next step in management?

- A) Start IV empiric antibiotics (Ceftriaxone 50 mg/kg IV and Vancomycin 15 mg/kg IV)
- B) Order a AP & Lateral Neck X-Ray
- C) Give Racemic Epi 0.05 mL/Kg/dose diluted in 3 mL of Normal Saline and Dexamethasone 0.6 mg/kg IV as a one-time doses.
- D) Contact ENT and/or Anesthesia to have artificial oral intubation (Endotracheal tube) placed
- E) Placement of a surgical air way (tracheostomy vs cricothyrotomy)
- F) Obtain a Throat and Blood culture, then start IV antibiotics

- A) Start IV empiric antibiotics (Ceftriaxone 50 mg/kg IV and Vancomycin 15 mg/kg IV)
- B) Order a AP & Lateral Neck X-Ray
- C) Give Racemic Epi 0.05 mL/Kg/dose diluted in 3 mL of Normal Saline and Dexamethasone 0.6 mg/kg IV as a one-time doses.
- D) Contact ENT and/or Anesthesia to have artificial oral intubation (Endotracheal tube) placed
- E) Placement of a surgical air way (tracheostomy vs cricothyrotomy)
- F) Obtain a Throat and Blood culture, then start IV antibiotics

## Answer is D

- The child is being diagnosed with severe epiglottitis. His appearance and vitals are concerning as he is suffering from severe symptoms. the correct answer is D since protecting the air will take priority in this case.
- ENT and/or Anesthesia must be called as they are the experts on air way management.
- Answer A and F would be the next step in treatment once the patient's air way is secure. Literature recommends starting a 3<sup>rd</sup> generation cephalosporin + vancomycin or clindamycin in order to cover for MRSA.

- Answer B is incorrect since the need of film for diagnosis is not warranted in cases with severe symptoms. Awaiting the results of the x-ray will delay securing the air way
- Answer C is incorrect since both medications have been shown not to improve symptoms.
- Answer F is incorrect since an attempt for an oral or nasal artificial airways are a priority. If Airway specialists are unable to obtain an oral or nasal airway, then a surgical emergent air way is required.

## Question 2

Leo Messi is a 5 year old male who recently moved to Miami from Argentina. Parents brought Leo into ED since they notice Leo was feeling warm to touch, was experiencing rapid breathing, and discomfort on swallowing. Symptoms were noticed earlier this morning. Of note, Leo's parents do not believe in vaccinations, and he has not received any. His current vitals are stable and appropriate except for a fever (38.3) and mild tachypnea. On PE, he is found to be in mild respiratory distress, but cooperates during physical. While examining his oral cavity, we see the uvula is midline without erythema. There is pooling of secretions noted with in his posterior oropharynx. The patient is tender to palpation to his anterior neck mainly in the hyoid region. Due to the stability of his symptoms, it is decided to order an AP & Lateral neck x-rays (see image 1). Due to his presumptive diagnosis, what organism is likely to cause his disease?

Image I



- A) *Pseudomonas Aeruginosa*
- B) Parainfluenza Virus type 1 and 2
- C) *Haemophilus Influenzae* type B
- D) *Staphylococcus Aureus*
- E) None of the Above

- A) Pseudomonas Aeruginosa
- B) Parainfluenza Virus type 1 and 2
- C) Haemophilus Influenzae type B
- D) Staphylococcus Aureus
- E) None of the Above

## Answer is C

- The correct answer is C since *Haemophilus Influenzae* type B (Hib) is the most common infectious cause of epiglottitis in children. Incidence of Epiglottitis in the US and developed countries has decrease since Hib vaccine was added to the routine infant immunization scheduled. The child in our questions is at a high risk since he has not receive any immunizations.
- Answer A is unlikely. The child did not experiencing trauma (burns) and he is not an immunocompromised patients. This makes the infection of this bacteria unlikely.

- Answer B is wrong since those viruses lead to croup. Only Parainfluenza Virus type 3 can lead to epiglottitis.
- Answer D is incorrect as the bacteria would need oropharyngeal trauma to cause a tear or damage to the mucosa. This could lead to infection by the bacteria.
- Answer E is not a valid statement.

# References

- 1) Woods, C.R. Epiglottitis (Supraglottitis): clinical features and diagnosis. UpToDate, May 2012
- 2) Woods, C.R. Epiglottitis (Supraglottitis): treatment and prevention. UpToDate, May 2012.
- 3) Chandler, D., Connor, M., Breen, D. Hib Epiglottitis despite fully vaccinated status. *British Journal of General Practice*. 2009 (59): 597-598.
- 4) Adair, J. C., Ring, W. H. Management of Epiglottitis in Children. *Anesthesia and Analgesia*. 1975 (54): 622-624
- 5) Stroud, R.H., Friedman, N. R. An Update on Inflammatory Disorders of the Pediatric Airway: Epiglottitis, Croup, and Tracheitis. *American Journal of Otolaryngology*. 2001 (22): 268-275.