ROLE OF ADJUNCTIVE DEXAMETHASONE IN ADULT PATIENTS WITH BACTERIAL MENINGITIS

CLINICAL QUESTION
INOVA FAIRFAX HOSPITAL
MORNING REPORT
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BURNING CLINICAL QUESTION
OBJECTIVES

- Present Clinical Question
- Demonstrate Literature Search
- Rationale/ Clinical Relevance
- IDSA Guidelines
- Limitations
LITERATURE SEARCH

- Clinical Question:
  What is the role of adjunctive dexamethasone therapy in adult patients with bacterial meningitis?

- Resources: IDSA Guidelines
  OVID Medline

- Search Terms: “Steroids” , “Dexamethasone” “Bacterial Meningitis”
CLINICAL RATIONALE
BEHIND ROLE OF STEROIDS

Blunt inflammatory response

- cerebral edema
- intracranial pressure
- vasculitis
- neuronal injury
DE GANS, VAN DE BEEK D.  
DEXAMETHASONE IN ADULTS WITH  
BACTERIAL MENINGITIS.  

STUDY DESIGN:  
Prospective  
Randomized  
Placebo-Controlled  
Double Blinded MCT

MATERIALS/METHODS:  
10 mg IV q6 for 4 days vs. placebo
INCLUSION CRITERIA:  
Adults > 17 (N =301)  
Suspected meningitis  
+ cloudy CSF  
or bacteria gram's stain CSF  
or CSF leukocyte count > 1000 per cubic millimeter  

EXCLUSION CRITERIA  
Allergy: -lactam antibiotics or corticosteroids  
Pregnant  
CSF shunt  
Previous 48 hr tx with oral or parenteral abx  
active tb or fungal infection  
head trauma, neurosurgery, or peptic ulcer disease
RESULTS: EARLY TX W/ DEXAMETHASONE IMPROVES OUTCOMES IN ADULTS W/ ACUTE BACTERIAL MENINGITIS

- 8 wks s/p enrollment

- Unfavorable outcomes
  Dex vs Placebo (15% vs. 25%) (P = .03)

- Death
  Dex vs Placebo (7% vs. 15%) (P = .04)

- Subgroup pneumococcal meningitis
  unfav outcome dex vs. placebo (26% vs 52%) (P = .006)
  death dex vs placebo (14% vs 35%) (P = .02)
IDSA GUIDELINES

- Dexamethasone 0.15mg/kg q6 hr
- Duration: 2-4 days
- Given: 10-20 minutes prior to or with abx tx
- Who: Adults suspected/proven *pneumococcal* meningitis
- Should not be given to adults who have already received abx tx
LIMITATIONS

- Of note there have been 5 published trials of adjunctive dexamethasone therapy in adults with bacterial meningitis
- Timing of dexamethasone administration
- Discrepancy between studies regarding antibiotic choices
- Varying severity of illness
- Role in Highly Resistant Pneumococci?
- Role in other bacterial pathogens?
SUMMARY OF OBJECTIVES

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REFERENCES