Maine Medical Center  
Department of Emergency Medicine  

Journal Club / Research Article Summary - (Adapted from Schultz Table)  

Date: 9/18/13  
Presenter: Nathan Ward  

ARTICLE:  
- Country: USA  
- Funding Sources: None mentioned  

PURPOSE:  
- Research Question(s): What is the efficacy of a single fascia iliaca compartment block administered by an ED physician for post-hip fracture pain relief?  
- Hypothesis: Fascia iliaca compartment block will provide decrease in VAS pain scores compared to baseline level of pain  

DESIGN:  
- Study Design: Prospective, observational, uncontrolled  
- Dependent / outcome Variable(s):  
  1) VAS pain scores  
  2) Sensory loss tested by palpating skin over the affected hip  
  Secondary outcomes- MAP, HR, RR  
- Independent / research Variable: None  

SETTING / SUBJECTS:  
- Research Setting: Academic ED? (U of A?)  
- Subjects:  
  Study population: 63 sequential (not consecutive) adult hip fracture patients in ED  
    ○ Inclusion / Exclusion criteria: None mentioned  
    ○ Number (control / intervention groups): N/A  
    ○ Demographics:  
      43 women, 20 men  
      Age 37-96 (mean 73.5)  
      No mention of race/ethnicity
○ Attrition: Not mentioned

METHODS:

Interventions: Standardized FICB performed by one of 4 EM physicians
Based on landmarks only (Fig 1)
0.3 mL/kg of 0.25% bupivicaine
No IV analgesia
Oral analgesia, “usually diclofenac”, as needed

● Study Groups: N/A

● Instruments: VAS

● Data Collection:
  VAS assessed at time 0 (pre-block), 15 min, 2 hrs, 8 hrs
  Sensory loss by palpation of skin over affected hip
  MAP
  HR
  RR

DATA ANALYSIS:

● Level of Data: Continuous

● Statistics Used: Student’s t-test for comparison of VAS pain scores pre-procedure to pain scores post-procedure

● What, if any, confounding variables were controlled for / adjusted for: None

RESULTS:

● Brief answers to research questions:
  Table 1- statistically significant difference in pain score at 15 min, 2 hrs, 8 hrs
  Greatest effect at 15 min and 2 hrs
  “The objective pain scores … were almost identical to those of the VAS”
  “Although all study patients experienced pain relief post-block, some did not get as much relief as expected.”
  Pain was “not completely abolished in any patient”
  No systemic complications
  Two local hematomas
  Pain med requirement 1.2 doses of 75 mg diclofenac / 24 hours

● Additional findings: HR and MAP normalized after 2 hrs
  Baseline average HR was remarkably high
  No changes in GCS
• **Other possible explanation for findings:** Decrease in pain could be related to oral pain meds, could be natural history of the disease over time, or could be placebo effect. There are no controls for any of these things.

• **Limitations?** No control group, not randomized (observer bias, experimenter’s bias, placebo effect)

  Cannot compare efficacy of FICB to other standards of care (IV opioids) from this study

  Authors make conclusion that “FICG produced significant benefit by controlling pain far better than standard parenteral medications without any evidence of increased delirium” however these statements are unfounded based on data published in this study since there was no comparison to parenteral medication, and delirium was not an outcome mentioned anywhere in this study.

  Data is reported as an average so there could be significant variability with some patients experiencing great relief and others minimal relief.

**IMPLICATIONS FOR PRACTICE:**

• **Applicable to this clinical practice:** Based on this paper it appears that FICB is a safe procedure (although small sample size) that can be performed by ED physicians with improvement in pain scores. It is difficult based on this paper alone to infer much about the relative benefit of FICB vs IV meds or combination of both, or the relative benefit of FICG vs placebo

• **Feasibility (cost, resources, etc):** Very feasible for ED

• **Clinically Relevant:** Yes, with significant limitations mentioned above, but there is not much downside to performing this block in the ED, and it is a commonly encountered problem in the ED

**LEVEL OF EVIDENCE / DECISION FOR USE:**

• Background evidence

• **Level of Evidence:**

  III  Well-designed non-experimental studies