Maine Medical Center  
Department of Emergency Medicine  

Journal Club Article Summary

Date: May 22, 2013  
Presenter: Anthony Regis

ARTICLE:

Citation: Gabapentin reduces preoperative anxiety and pain catastrophizing in highly anxious patients prior to major surgery: a blinded randomized placebo-controlled trial. Canadian Journal of Anesthesiology (2013) 60: 432-443.  
Authors: Hance Clarke et al. Dept of Anesthesia and Pain Managment Toronto General Hospital.  
Country: Canada  
Funding Sources: Canadian Institutes of Health Research Grant 

PURPOSE:

- Research Question(s): Does Gabapentin administration reduce preoperative anxiety and pain catastrophizing? 

- Hypothesis: In patients with moderate to high preoperative anxiety, Gabapentin reduces anxiety levels when compared to placebo.

DESIGN:

- Study Design: Single center double blinded randomized controlled trial. 

- Outcomes: Primary outcome = Decrease in anxiety (measured by NRS) and pain catastrophizing level (measured by PCS). Secondary outcome = Post operative pain. 

METHODS:

- Research Setting: Surgical Center Toronto General Hospital Sept 2009-June 2011 

- Subjects:
  - Study population: Female adults (age ≥ 18) scheduled for non-cardiac surgery with preop anxiety scores (NRS) of ≥ 5/10.

- Inclusion / Exclusion criteria: Inclusion: Females ages 18-50 with American Society of ASA classification 1-III scheduled for non-cardiac surgery with preop NRS anxiety scores of ≥ 5/10. Exclusion = Inability to understand English or provide informed consent, allergy to gabapentin, abnormal LFT’s or renal function, HIV, Hep B, Hep C, severe mental illness, insulin dependent diabetics, patients already on gabapentin or pregabalin, pregnant/breastfeeding, or history of drug or ETOH abuse

- Number (control / intervention groups): 187 patients screened
70 did not meet inclusion criteria, 67 declined participation
44 of remaining 50 patients completed protocol (6 taken to OR before 2 hours after treatment = insufficient time)
22 in gabapentin group and 22 in placebo group

DATA ANALYSIS:
- T-test Chi square tests (SAS statistical software and R software environment)
- Measurements:
  - Anxiety level measured by Visual Analogue Scale (VAS) Numerical Rating Score (NRS) and Spielberger State-Trait Anxiety Inventories (STAI-S and STAI-T)
  - Pain levels Measured by NRS, Pain Anxiety Symptoms Scale (PASS) and Pain Catastrophizing Scale (PCS)
  - Sedation (Richmond Agitation Sedation Scale)

  Measured Pre-treatment, 2 Hours Post treatment, 1 hour post op (pain and sedation)

RESULTS:
- Brief answers to research questions: Primary outcome: 1200mg of gabapentin was effective at reducing preoperative anxiety (measured by NRS) and pain catastrophizing (PCS) in moderate to highly anxious females undergoing general surgery. Secondary Outcomes: Clinically more pre and post operative sedation in patients receiving gabapentin than placebo. No difference between groups in post operative pain scores.
- Limitations: Small study population. Lack of heterogeneity (no males, only participants with baseline moderate to severe anxiety enrolled). Subjective data. No control for intraoperative anesthesia (left to anesthesiologist's discretion).

IMPLICATIONS FOR PRACTICE:
- Applicable to this clinical practice: Yes. We see people in the ED on a daily basis with anxiety. Supportive care and benzos are the typical treatment. Benzodiazepines are well known to carry potential for misuse and are habit forming. Gabapentin appears relatively safe with few medication interactions and side effects. It has a quick therapeutic effect and could be considered as an alternative in the ED. Would like to see more trials showing it’s effectiveness. This trial required a high dose, one that I would not prescribe to my patients, especially when not following them as an outpatient.
- Feasibility: Yes. Common medicine, ample supply in the hospital. Unsure of cost compared to benzos

LEVEL OF EVIDENCE :
- 1b