

Journal Club Block 11 Synopsis
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Clinical Scenario:

You are working a typical weekend shift. The shift is going well. Not too busy. Not too slow. You pick up your next patient in room 4. It's a 37 year old female with a migraine. You look through her chart and see that she has had a few visits for headache and migraine over the past year. You go to evaluate her. Vitals are stable. You determine through your 10 point review of systems and thorough neurological exam that her headache is a typical migraine headache without the need for any further investigation. You tell her that you are going to treat her with IV fluids and a "typical migraine cocktail." She smiles and says thank you. You then decide to re-evaluate your other migraine patient in room 11 and she tells you that she has had minimal relief to your standard cocktail at which point you inform her that you will order more medication. You sit down at your desk to order your cocktail when an EPIC warning pops up that your room 4 patient is allergic to Toradol and Phenergan. After you are finished rolling your eyes, you wonder what else can I give this patient without resorting to that medication that starts with a D. You think droperidole for both patients, but no one has the drug in stock anymore. What are you going to do?

Headaches are notoriously difficult to treat. Like chronic pain, and even acute pain, there are no lab tests, no vital sign abnormalities that you as the physician can hang your hat on. Because of this subjective nature, there are a multitude of treatments that can be used.

The first three articles were for your reading pleasure reviewed all of the different treatments that are utilized in and out of the hospital to include ergotamine derivatives like DHE and triptans. Many studies found that DHE's were excellent to abort headaches, but with contraindications for many of our older patients such as hypertension, ischemic heart disease and peripheral vascular disease. In my opinion, these along with the triptans (same contraindications at ergotamines) are underutilized in the emergency department as their names are never uttered. These papers also went over opioids for migraine/headaches. And while these medications work to abort headache pain immediately, they also produce rebound headaches. Steroids are also good to treat migraine, but not the migraine right now. Multiple studies discussed in these review articles site that they work well for the next headache after our medications have worn off. However, the most important way to stop bounce-backs for migraine/headache is to control and abort the headache in the ER on the first visit.

The aim of this journal club was to highlight some new and alternative methods for headache treatment given the numerous allergies or adverse reactions to medications that our patients may have.

Honkaniemi et al. Haloperidol in the Acute Treatment of Migraine: A Randomized, Double-Blind, Placebo-Controlled Study. *Headache*; May 2006: 781 - 787

The first of the papers focused on propofol for the treatment of headache. The paper in question, while terrible by Evidence Based Medicine standards, was a proof of concept study. That is... is the treatment feasible and does it work? The authors of this study were pain management specialists in an outpatient clinic. The rationale for the study was their observation that many of their patients with chronic back pain also complained of headaches that would abort with the procedural sedation they instituted for epidural injections. Authors administered 20 mg to 30 mg of propofol every 3 to 5 minutes for headache treatment. 84% of patients had complete relief of their migraine with an average dose of 110 mg in an average of 20 to 30 minutes.

Krusz JC, Scott V, Belanger J. Intravenous Propofol: Unique Effectiveness in Treating Intractable Migraine. *Headache*; May 2000: 224 - 230.

The second of the studies evaluated haldol for migraine. I felt this study was important given that droperidol is now in short supply and may even be nonexistent in many emergency departments. The study in question was a two part study. The first part was a traditional RCT that comprised forty patients. The second part of the study was open label that consisted of people of whom either refused the RCT or were found to be in the placebo group with no headache relief. The second part of the study had a total of 24 subjects. 80% of people had significant relief of their headache. Authors used 5 mg of haldol in the study. The main drawback of using haldol was the reported side effects of agitation (44% of patients) and sedation (38% of patients), though most would agree that the latter is a desired effect. On a personal note, caution is advised when using neuroleptics such as haldol because of the QT prolongation. I recommend an EKG before looking for any QTc above 500ms as your cut off and having your patient on a cardiac monitor.

Shahien R, Saleh SA, Bowirrat A. Intravenous sodium valproate aborts migraine headaches rapidly. *Acta Neurol Scand*: 2011; 123: 257–265.

The third study evaluated depakote based on its GABA agonist properties when used for migraine prophylaxis. This study was all over the place horrible. However, much like the propofol study, the aim of this study was to test safety and efficacy – not a true RCT. In an open-label format, 36 patients were enrolled. 75% reported a reduction of their pain from severe/moderate to little or no pain at 60 minutes. No adverse reactions were reported.

The aim of this journal club was to pique your interest in new treatments of migraine: haldol, propofol, depacon and decadron (not discussed here) given that medications are constantly going on short supply. In summary, haldol and depacon are wonderful treatments for migraine and have had many articles written. I have used both with great success in the ED. Propofol... not so much. And knowing is half the battle.