



OUCH: Overcoming Uncontrolled Chronic migraine Headaches

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PROBLEM

- Migraines affect over 36 million people within the United States and 1 billion people worldwide; second most debilitating condition with the third highest prevalence among all medical conditions (Levin et al., 2018; Mavridis et al., 2021).
- Only 5–13% of patients eligible for migraine preventative treatment receive treatment (Levin et al., 2018).
- Previous preventative migraine therapy has been ineffective in 40–50% of patients due to adverse effects and lack of efficacy (Frank et al., 2021).
- 60% of chronic migraine patients abandon treatment after 2 months (Frank et al., 2021).

BACKGROUND

- Migraine pathophysiology is centered on cortical spreading depression (CSD) which is a wave of neuronal hyperexcitation followed by depression involving multiple regions of the vasculature.
- Calcitonin Gene Related Peptide (CGRP) is a neuropeptide released during a migraine attack.
- Studies on abortive migraine treatments demonstrated CGRP levels were reduced following treatment administration demonstrating the link between CGRP and migraines.
- CGRP monoclonal antibodies (mAbs) delivered as subcutaneous injections, have been developed as migraine specific preventative treatment options.

METHODS

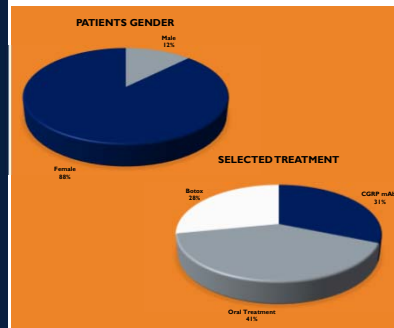
- The setting for this project was Texas Tech University Health Sciences Center El Paso (TTUHSC EP) Department of Neurology outpatient clinic, where a 10-day reflective practice was conducted through which opportunities for improvement in clinical practice were identified.
- The Focus, Analyze, Develop and Execute (FADE) QI model was utilized as the foundation for project planning.



- Kurt Lewin's change theory served as the translational framework for the proposed practice change.
- The following PICOT question was developed for this project:
 - Population: In patients aged 18–65 diagnosed with migraine headaches
 - Intervention: Administration of a CGRP mAbs
 - Current Intervention: Weekly titration of topiramate to goal dose of 100mg/day
 - Outcome: Reduced migraine frequency and increased therapy compliance
 - Time: Over a period of 4 weeks.
- Patients evaluated who met diagnostic and treatment criteria had an initial Migraine Disability Assessment (MIDAS) score documented along with Monthly Migraine Day (MMD) count and any previous history with preventative treatment.
- Preventative treatment options offered to patients included CGRP mAbs, conventional oral treatment and onabotulinumtoxinA.
- Patients starting CGRP mAbs were followed up a month after starting treatment.

RESULTS

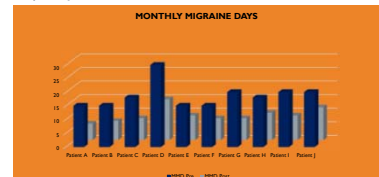
- 32 patients from ages 18–82 were evaluated during the 6-week period; 10 patients elected to start treatment with CGRP mAb therapy.



- MIDAS scores for the patients who elected to start treatment ranged between 2 and 3 and they reported an average of 18.6 MMD prior to intervention.

- The 10 patients who started treatment were prescribed either Glacanezumab 240mg single loading dose followed by 120mg once monthly or Erenumab 70mg once monthly.
- All 10 patients completed follow up at 4 weeks after initiating therapy with a reduction in average MMDs to 9.2 days within the first 4 weeks of therapy.

- Qualitative data gathered at follow up visits demonstrated patient satisfaction with CGRP mAb treatment including ease of use and improved quality of life.



IMPLICATIONS

- Use of CGRP mAb therapy is a treatment option that can provide a reduction of MMD by 50% or more.
- The dosing schedule and more favorable side effect profile associated with CGRP mAb therapy has resulted in an improved therapy adherence rate.
- CGRP mAb is a migraine specific treatment option that ought to be provided to both treatment naïve patients and those who have demonstrated lack of efficacy with other preventative treatment options.
- Education of therapy options, reasonable treatment expectations and appropriate lifestyle modifications is also crucial to treatment success.

REFERENCES

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Project Aim: Improve patient outcomes by initiating preventative migraine treatment with CGRP mAbs. These agents have been proven to be equally or more effective at reducing migraine frequency and providing symptom relief with superior tolerability, which may lead to improved adherence to therapy.