Title: Cost-effectiveness of CGRP Inhibitors for Migraine Prophylaxis

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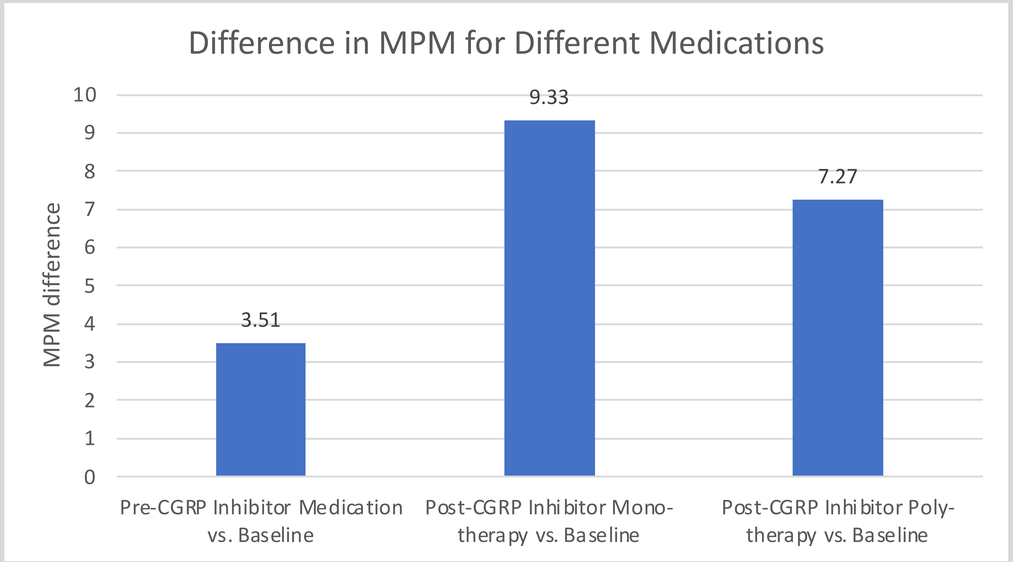
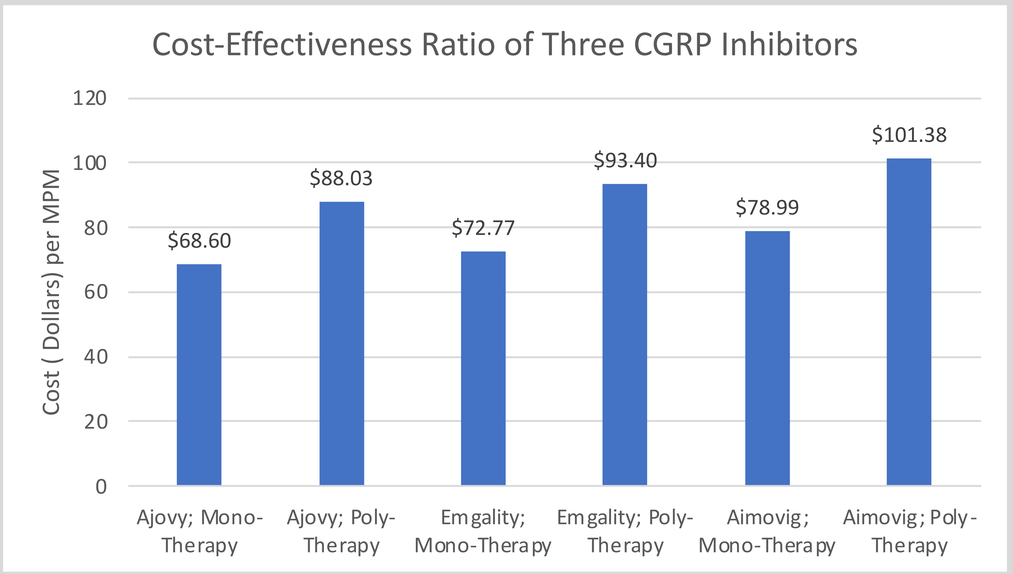
INTRO:

- CGRP inhibitors are more expensive than traditional migraine prevention drugs.
- Prior research has demonstrated the efficacy of CGRP inhibitors for migraine patients unresponsive to conventional treatments.
- However, the cost-effectiveness of CGRP inhibitors at their current price point is in question.
- This study aims to assess the cost-effectiveness of CGRP inhibitors.

METHODS:

- Conducted a retrospective chart review.
- Included adult patients from our institution's Health Plan prescribed CGRP inhibitors for migraine prevention for ≥4 months as of November 2022 (n=190).
- Primary outcome: Calculated cost-effectiveness ratio (CER) for CGRP inhibitors as monotherapy or add-on therapy, measured as cost per migraine prevented per month (MPPM).
- Calculated CER by dividing the cost of the migraine medication by the average difference between baseline migraines per month and post-medication migraines per month.
- Determined the cost of the migraine medication using common medication price tracking websites.
- Primary CGRP inhibitor medications included Ajovy, Emgality, and Aimovig.
- Secondary outcomes included assessing differences in migraine intensity before and after initiation of migraine therapy.
- Determined statistical significance using a two-tailed paired t-test.





RESULTS:

- The study included 190 participants aged 16 to 66, with an average age of 42 years.
- Predominantly female population (n=162).
- Average baseline migraines per month (MPM) for the study population: 15.82.
- Average MPM reduced to 13.3 while on non-CGRP medications ($p<0.05$).
- Average MPM further decreased to 7.11 after CGRP initiation ($p<0.05$).
- Patients on CGRP inhibitors as monotherapy had an average decrease of 9.33 MPM from baseline ($p<0.05$).
- Patients on CGRP inhibitors as add-on therapy had an average decrease of 7.27 MPM from baseline ($p<0.05$).
- Cost-effectiveness ratios (CER):
    - Ajovy monotherapy: $68.60/MPPM
    - EmgalityAjovy polytherapy: $88.03/MPPM
    - monotherapy: $72.77/MPPM
    - Emgality polytherapy: $93.40/MPPM
    - Aimovig monotherapy: $78.99/MPPM
    - Aimovig polytherapy: $101.38/MPPM
- Average decrease in migraine intensity after CGRP inhibitor therapy: 2.17 out of 10.

Conclusion:

- CGRP inhibitors exhibit a high Cost-Effectiveness Ratio (CER), which may pose financial challenges for both patients and the healthcare system.
- Nonetheless, CGRP inhibitors demonstrate efficacy both as a standalone treatment and when added to a patient's existing migraine prophylaxis regimen.
- The elevated cost of CGRP inhibitors can be justified in cases where patients suffer from refractory migraines or cannot tolerate more cost-effective first-line medications.
- CGRP inhibitors used as an add-on therapy tend to have higher CERs, likely due to the fewer migraines per month (MPM) to improve upon from the patient's existing regimen.

CGRP inhibitors prove to be costly despite their effectiveness for migraine prophylaxis.