

INDIRECT TREATMENT COMPARISON OF ANTICALCITONIN GENE RELATED PEPTIDE PATHWAY ANTIBODIES IN CHRONIC MIGRAINE

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Analgesics

BACKGROUND AND IMPORTANCE

Erenumab, fremanezumab, galcanezumab and eptinezumab → monoclonal antibodies targeting calcitonin gene-related peptide pathway (anti-CGRP), used as preventive treatment in chronic migraine (CM).

AIM AND OBJECTIVES

To evaluate whether anti-CGRP drugs could be declared **equivalent therapeutic alternatives** (ETA) in CM, through an adjusted **indirect treatment comparison** (ITC).

MATERIAL AND METHODS

Bibliographic search of randomized clinical trials (RCTs) in Pubmed database (20/05/2019).

- **Inclusion criteria:** phase II/III RCTs of anti-CGRP with similar population, follow-up duration and comparator treatment. CM was defined as ≥ 15 headache days/month, of which ≥ 8 were migraine-days (event duration ≥ 4 hours).
- **Exclusion criteria:** RCTs with different clinical CM context and other CM definition.

Efficacy endpoint → reduction $\geq 50\%$ migraine days/month (from beginning of treatment until 12 weeks).

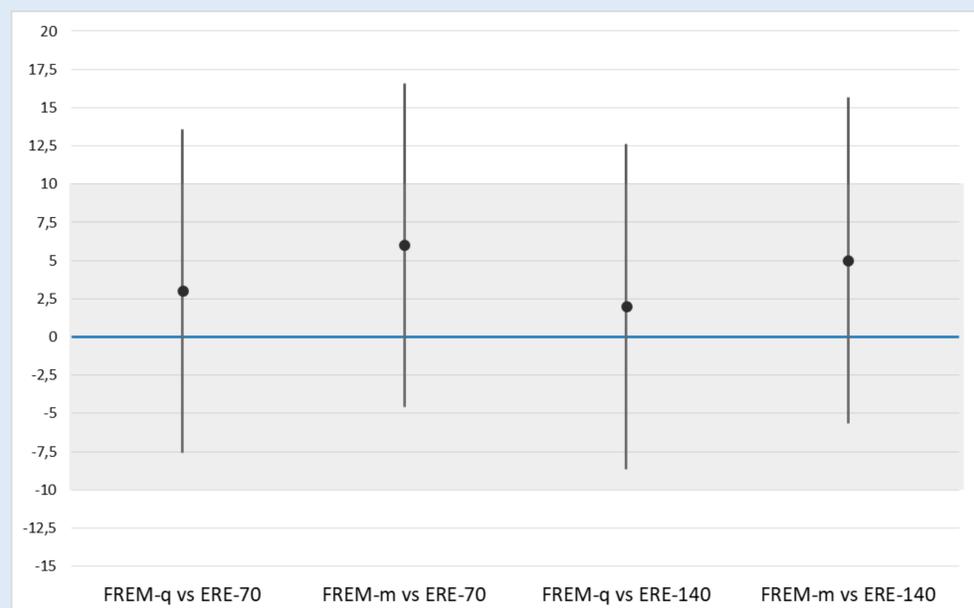
ITC → developed using Bucher's method.

Δ → maximum difference as clinical criterion of equivalence. Calculated according to ETA guide: use was made of half of absolute risk reduction (ARR) obtained in the meta-analysis of RCTs included in ITC (pooled ARR=20%; $\Delta=10\%$).

RESULTS

- 6 RCTs found: erenumab (n=3), fremanezumab (n=2), galcanezumab (n=1) and eptinezumab (n=0).
- Selected: 1 study of **erenumab** and 1 of **fremanezumab**. The rest were not included in ITC (non-compliance of inclusion criteria).
- Trials included were three-arm (control and two different drug regimens), double-blind and placebo-controlled RCTs.
- Results of ITC:

Reduction $\geq 50\%$ migraine days/month ARR (95%CI)	Erenumab 70mg	Erenumab 140mg
Fremanezumab quarterly	3% (-7.56% to 13.56%)	2% (-8.64% to 12.64%)
Fremanezumab monthly	6% (-4.59% to 16.59%)	5% (-5.66% to 15.66%)



In all cases, there were **no statistically significant differences**. The most part of the 95%CI was within calculated Δ margins.

CONCLUSION AND RELEVANCE

ITC showed no statistically significant differences in reduction of $\geq 50\%$ migraine days/month between erenumab and fremanezumab. Probable clinical equivalence was found between erenumab and fremanezumab. **These drugs could be considered ETA in CM**. Further studies are necessary to include galcanezumab and eptinezumab in ITC.

