Effect of erenumab in converting chronic migraine to episodic migraine in a Botulinum toxin-refractory chronic migraine population: Real-world data from a UK secondary care headache clinic

Fan Cheng1, Jill Murphy1, Jennie Truman1, Chisha Weerasinghe1

1Department of Neurology, The York Hospital, York and Scarborough Teaching Hospitals NHS Foundation Trust, York, UK

Introduction

- Erenumab, an anti-calcitonin gene-related peptide (CGRP) receptor monoclonal antibody, is an efficacious novel chronic migraine (CM) preventive in clinical trials (1, 2).
- Erenumab converts CM to episodic migraine (EM) over 12–64 weeks in a recent clinical trial open-label extension study (3). However, long-term real-world EM conversion data is lacking.
- Few studies have assessed erenumab responses in onabotulinumtoxinA-refractory CM. None were conducted in secondary care, where significant numbers of CM patients are managed.
- We investigate long-term real-world erenumab efficacy in converting onabotulinumtoxinA-refractory CM to EM over 21 months in a UK secondary care headache clinic.

Methods

- Prospective case series: 21 CM patients refractory to onabotulinumtoxinA and 24 oral prophylactics, without medication overuse headache (MOH), received 4-weekly subcutaneous erenumab for 21 months (Mar 2019 – Nov 2020).
- Monthly headache days (MHD), migraine days (MMD) and headache-free days (HFD) assessed.
- Mean MMD <8 days/month responses assessed conversion to EM.
- Mean MMD >8 days/month responses assessed migraine frequency reduction to one manageable with analgesia without causing MOH.
- >30%, >50% and >75% MMD reduction from baseline assessed.
- MHD and MMD responses compared for those with and without baseline HFD.

Results

- Patient characteristics:
  - Gender: Male 1 (4.8%), Female 20 (95.2%). Mean age (years): 41.2 ± 9.5
  - Number of oral prophylactics failed per patient: 5.5 ± 1.3 (range 4 – 9)
  - Commonest prophylactics tried (%): amitriptyline 100%, topiramate 81.0%, propranolol 61.9%, candesartan 61.9%
  - Number of onabotulinumtoxinA cycles failed per patient: 6.0 ± 2.4
- Erenumab administration:
  - Number of 70mg doses per patient (median): 6.0. Number of 140mg doses per patient (median): 1.3
- Baseline headache characteristics (median, mean ± SD):
  - MMD: 30.0, 27.3 ± 4.5; MMD: 18.0, 20.0 ± 6.0; 61.9% had 0 baseline HFD

Conclusion

- More achieved mean MHD<15 at Month 12 (75.0% vs 7.7%, p<0.003) and Month 21 (75.0% vs 15.4%, p=0.018)
- More achieved >50%MMD reduction at Month 12 (100% vs 53.8%, p=0.046)
- Greater HDF gain at Month 12 (+13.0 vs +4.5 days, p=0.021)

Results- MHD and MMD improvement

- 52.4% achieved MHD<15 in any month, within 2.2±1.7 months (range 1–6 months)
- 85.7% achieved MMD<8 in any month, within 3.4±2.4 months (range 1–9 months)
- 52.4% achieved both MHD<15 and MMD<8 in any month, within 3.1±1.8 months (range 1–6 months)
- 100% patients who achieved MHD<15 in any month also achieved MMD<8 in any month
- 33% achieved MMD<8 in any month only, without achieving MHD<15 in any month

Results- Conversion to EM

- Conversion to EM (mean MHD < 15 responses):
  - Month 3: 14.3%
  - Month 6: 14.3%
  - Month 12: 33.3%
  - Month 21: 38.1%

References