Two year prospective quality of life data in patients with new daily persistent headache treated with erenumab in Ireland

Alina Buture[1], Esther Tomkins[2], Arif Shrukalla[2], Emma Troy[2], Katie Conaty[2], Esther Macken[1], Roisin Lonergan[1], Jane Melling[1], Niamh Long[2], Eamonn Shaikh[2], Peter J.Goadsby, Martin Ruttledge[2*]

1 Dublin Neurological Institute, Department of Neurology, Mater Hospital, Eccles Street, Dublin 7, Ireland.
2 Department of Neurology, Beaumont Hospital, Beaumont Road, Dublin 9, Ireland.
3 NIHR-Wellcome Trust King's Clinical Research Facility, King's College London, UK and Department of Neurology, University of California, Los Angeles, Los Angeles CA USA

Background: New daily persistent headache (NDPH) describes a series of clinical presentations of both primary and secondary headache disorders. Most patients with primary NDPH have a chronic migraine phenotype.

Objective: To determine the effect of treatment with erenumab on quality of life (QOL) in a group of patients with primary or secondary NDPH who have failed multiple preventive treatments.

Methodology: We describe 82 patients who were given either 70mg or 140mg erenumab every 28 days by subcutaneous injection. Patients were asked to complete QOL questionnaires before starting treatment with erenumab, and at 3-6 month intervals, up to two years after starting treatment. The QOL questionnaires included: the Headache Impact Test-6, (HIT-6), Migraine Associated Disability Assessment (MIDAS) test and Migraine-Specific Quality-of-Life Questionnaire (MSQ). We used t-test to compare the means of patients QOL scores and compared them to baseline. Means were calculated with 95% confidence intervals. We used SPSS version 28 to analyse the data. Results are presented graphically.

Results: Eighty-two patients started treatment with erenumab between December 2018 and October 2019. Twenty-nine patients (35%) remained on treatment at two years. Fifty-nine percent of patients (*n*=49) were classified as primary NDPH, while 41% (*n*=33) as secondary NDPH (e.g. abrupt onset persistent daily headache secondary to head trauma, brain surgery, whiplash, exposure to toxic substances etc) (see Figure 1). Sixty-five percent of patients (*n*=53) stopped erenumab due to lack of efficacy (*n*=33), side effects (*n*=17), pregnancy planning (*n*=2) or lost to follow up (*n*=1). Summary of QOL scores are displayed in figures 2 to 4.

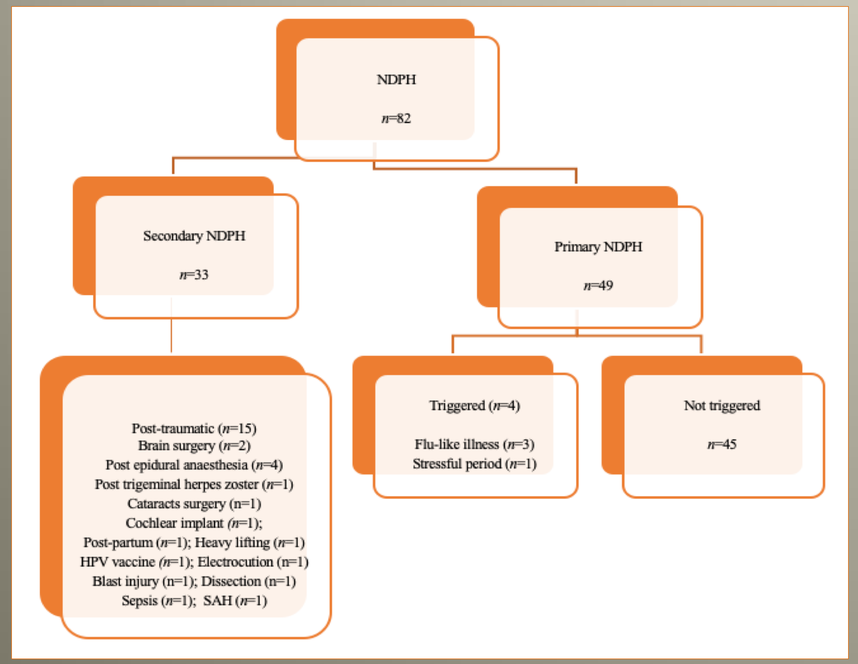

Figure 1. Clinical phenotype of patients with NDPH

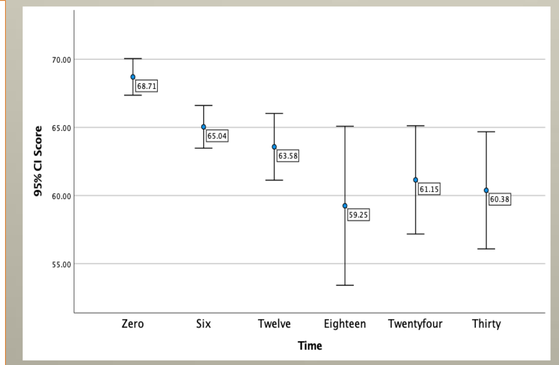

Figure 2. Mean HIT-6 score at baseline to 30 months

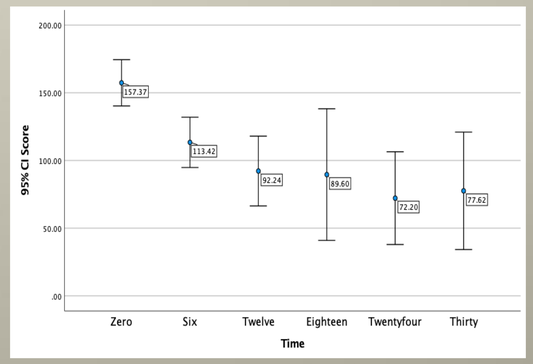

Figure 3. Mean MIDAS score at baseline to 30 months

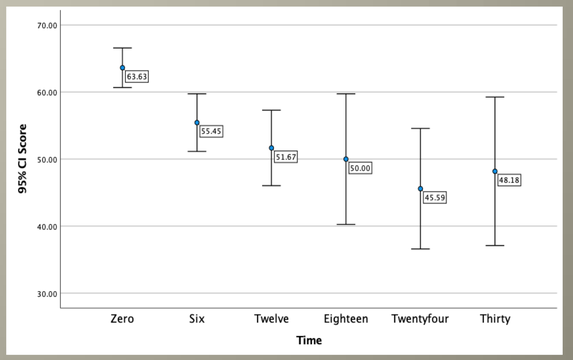

Figure 4. Mean MSQ score at baseline to 30 months

There was a statistically significant improvement in HIT-6 score from baseline to twelve months but this was less than 6 points indicating this was not clinically significant.

At fifteen months the improvement in outcome was significant with a mean decrease of 9.5 points.

At thirty months the improvement in HIT-6 was sustained.

There was a statistically significant improvement in MIDAS score from baseline to thirty months.

The mean improvement was by 79.7 points indicating good effect.

There was a statistically significant improvement in MSQ score compared to baseline.

The mean improvement in MSQ scores was by 15 points indicating a clinically significant improvement.

Conclusion: Thirty-five percent of patients with primary or secondary NDPH remained on treatment with erenumab at two years, while the rest of the patients discontinued due to lack of efficacy or side effects. Erenumab is a treatment option for this group of intractable headaches however the effect size is modest and clinicians need to weight up risks versus benefits.