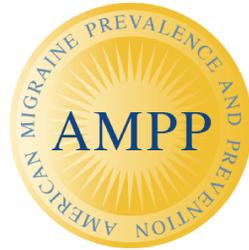


RATES AND PREDICTORS OF REMISSION FROM CHRONIC MIGRAINE TO EPISODIC MIGRAINE: RESULTS FROM THE AMERICAN MIGRAINE PREVALENCE AND PREVENTION (AMPP) STUDY

Aubrey Manack PhD¹, Dawn Buse, PhD², Daniel Serrano, MA^{3,4} Catherine Turkel, PharmD, PhD¹ Richard B. Lipton, MD²



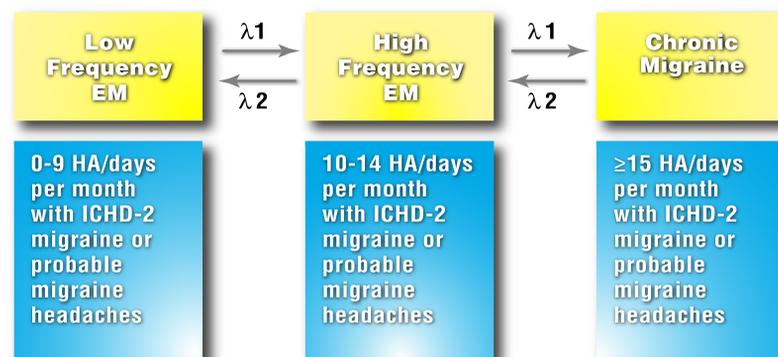
Institutions

- Allergan Inc., Irvine, CA.
- Albert Einstein College of Medicine and the Montefiore Headache Center, Bronx, New York
- Vedanta Research, Chapel Hill, NC.
- L.L. Thurstone Psychometric Laboratory, University of North Carolina at Chapel Hill, Chapel Hill, North Carolina

BACKGROUND

Migraine can be classified into 3 distinct transition stages based on attack frequency, low episodic migraine (LFEM), high frequency episodic migraine (HFEM) and chronic migraine (CM) as depicted in **Figure 1**. Transitions occur in the direction of increasing and decreasing frequency and are influenced by both modifiable and non-modifiable risk factors (Lipton RB. 2009)

FIGURE 1
TRANSITION MODEL FOR MIGRAINE FREQUENCY



*rate of onset (λ_1); rate of remission (λ_2)

*Lipton RB. Neurology. 2009

Each year, approximately 2.5% of EM sufferers develop CM (Bigal et al., 2008). Though predictors of migraine progression have been studied, data are limited on the rates and predictors of CM remission and persistence.

OBJECTIVE

To estimate remission rates for CM and assess potential predictors of remission for CM to EM.

METHODS

The AMPP study is a longitudinal, prospective, population based, mailed questionnaire survey. The survey included questions regarding but not limited to headache frequency, severity, and symptomology, demographic data, common comorbidities, medication taking habits, health care utilization, and the Migraine Disability Assessment (MIDAS).

In 2005, questionnaires were sent to 24,000 severe headache sufferers identified in a previous US population survey and followed annually in 2006 and 2007. CM subjects (ICHD-2 migraine; ≥ 15 headache days/month) were identified in 2005 and had to have 3 consecutive years of follow-up to be included in this analyses.

To assess potential predictors of remission, two migraine groups were identified:

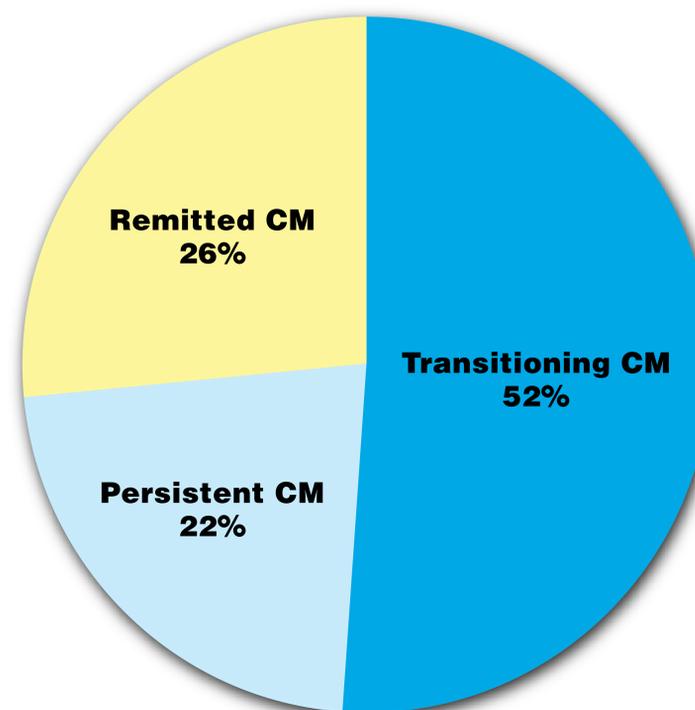
- **Persistent CM:** met CM criteria in every year from 2005-2007
- **Remitted CM:** met CM criteria in 2005 but had either LFEM, or no headache or probable migraine, or episodic tension-type headache, or other episodic headache in both 2006 and 2007

Rates of remission and persistence were calculated. Body mass index (BMI), depression (PHQ-9), age of onset, allodynia (ASC), medication utilization, MIDAS, headache day frequency and current preventive therapy use were examined as potential predictors by assessing both between and within group effects.

RESULTS

The subject pool included 383 individuals with CM in 2005 and who contributed 3 years of data. Of subjects with CM in 2005, 52.7% (n=238) had CM in at least one year of follow-up and 64.6% (n=292) had either CM or HFEM in at least one year of follow-up. Approximately 22% (n=84) had CM in all 3 years (ie. persistent CM) while 26% (n=100) had CM in 2005 but had either LFEM or no headache or probable migraine, or episodic tension-type headache, or other episodic headache in both 2006 and 2007 (ie. remitted CM) (**Figure 2**)

FIGURE 2
TRANSITION RATES IN 2006 AND 2007
RELATIVE TO CM STATUS IN 2005 (BASELINE)



*Transitioning CM is defined as CM at baseline and either CM, HFEM, LFEM, chronic or episodic tension type headache, no headache, probable migraine, or other episodic headache in subsequent years AND not meeting criteria for remitted or persistent CM

With regard to predictors of remission, all models were adjusted for age, sex, race, population density, geographic region and household income. Exploratory analysis suggests that the depression, MIDAS, BMI, age of headache onset, allodynia, medication utilization by class did not significantly predict remission of CM.

Headache day frequency did predict remission with the more headache days per month a CM sufferers reported then the less likely they were to remit [OR(95%CI)=0.08(0.02,0.29; p<0.001)]. Additionally, the current use of preventive therapy did predict remission, however, those CM sufferers utilizing a preventive therapy were half as likely to remit [OR(95%CI)=0.45(0.24,0.84; p=0.01)].

TABLE 1
EXPLORATORY REMISSION ANALYSIS OF
POTENTIAL PREDICTORS FOR CM REMISSION

Predictor Variable	OR(95%CI)
PHQ DEPRESSION	OR(95%CI)=0.99(0.94, 1.04, P \leq 0.690)
MIDAS	OR(95%CI)=1.00(0.99, 1.01, P \leq 0.848)
CONTINUOUS BMI	OR(95%CI)=1.00(0.97, 1.04, P \leq 0.916)
AGE OF ONSET	OR(95%CI)=1.00(0.97, 1.02, P \leq 0.855)
TOTAL ALLODYNIA	OR(95%CI)=0.95(0.89, 1.02, P \leq 0.134)
DICHOTOMOUS ALLODYNIA	OR(95%CI)=0.95(0.89, 1.02, P \leq 0.134)
NSAID USE	OR(95%CI)=1.16(0.61, 2.21, P \leq 0.645)
TRIPTAN USE	OR(95%CI)=0.80(0.37, 1.74, P \leq 0.572)
ERGOTAMINE USE	OR(95%CI)=0.43(0.02, 9.09, P \leq 0.591)
BARBITUATE USE	OR(95%CI)=0.92(0.36, 2.38, P \leq 0.863)
OPIATE USE	OR(95%CI)=0.80(0.35, 1.80, P \leq 0.583)
HEADACHE FREQUENCY #1a	OR(95%CI)=0.27(0.07, 1.04, P \leq 0.056)
HEADACHE FREQUENCY #2b	OR(95%CI)=0.08(0.02, 0.29, P \leq 0.000)
CURRENT PREVENTIVE MED USE	OR(95%CI)=0.45(0.24, 0.84, P \leq 0.011)

* All effects control for age, gender, race, population density, geographic region and income
a Headache Frequency #1 indicates the comparison between those CM sufferers with 15-19 HA days/month and those with 20-24 HA days/month
b Headache Frequency #2 indicates the comparison between those CM sufferers with 15-19 HA days/month and those with 25-31 HA days/month

CONCLUSIONS

Over 3 years of follow-up, the majority of those with CM remain with either CM or HFEM. CM is a complex headache disorder, which is reflected in the lack of clear predictors of disease remission. However, the predictor data suggests a need for an effective treatment that will help CM sufferers move into remission.

DISCLOSURE

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CONFERENCE

14th International Headache Congress. Philadelphia, Pennsylvania, USA September 2009