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Migraine progression in subgroups of migraine based on comorbidities

Results of the CaMEO Study

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Study objective and summary result

This study tested the hypothesis that comorbidity-based, statistically-defined migraine subgroups identified in the Chronic Migraine Epidemiology and Outcomes (CaMEO) Study differ in rates of progressing from episodic migraine (EM) to chronic migraine (CM). The study found that the comorbidity-based subgroups predicted EM-to-CM progression.

What is known and what this paper adds

Migraine is associated with a diverse spectrum of potential comorbidities, and previous studies have attempted to develop comorbidity-based classification systems with prognostic relevance. This investigation clarifies the relevance of such a system to predict EM-to-CM progression.

Participants and setting

The investigators analyzed data from 8,658 individuals with EM who reported comorbidities (75.0% female; mean age, 43.2 ± 14.7 years; mean body mass index, 28.6 ± 7.6 kg/m^2) and participated in the CaMEO Study (NCT01648530), an internet-based study that followed individuals in the US. Recruitment occurred between September 2012 and October 2012.

Design, size, and duration

A questionnaire that inquired about 62 potential symptoms and conditions was used to collect comorbidity data, and latent class analysis was used to classify the participants into 8 different migraine subgroups. Follow-up data were collected quarterly for 1 year to detect cases of incident CM, which was defined as experiencing ≥15 headache days per month. A Cox model with a discrete time variable was used to assess the relationship between comorbidity profiles and the risk of EM-to-CM progression.

Main results and the role of chance

Over 1 year, 580 participants (6.7%) progressed from EM to CM. In the final model, comorbidity subgroups were associated with different likelihoods of EM-to-CM progression, with more comorbidities being associated with greater progression likelihoods.

Table Selected results for relationships between comorbidity subgroups and EM-to-CM progression using latent class analysis

Comorbidities subgroups (final sociodemographic model, excluding race)	Hazard ratio (95% confidence interval) for EM-to-CM progression relative to the "Fewest Comorbidities" profile
Most comorbidities	5.34 (3.89–7.33)
Respiratory/psychiatric	2.40 (1.80–3.20)
Respiratory/Pain	3.64 (2.67–4.98)
Psychiatric	2.41 (1.77–3.28)
Pain	1.93 (1.32–2.82)

Bias, confounding, and other reasons for caution

The CaMEO Study had a low response rate, and all study data were self-reported.

Generalizability to other populations

The present study's results may not be generalizable to non-US populations.

Study funding/potential competing interests

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A draft of the short-form article was written by M. Dalefield, a writer with Editage, a division of Cactus Communications. The corresponding author(s) of the full-length article and the journal editors edited and approved the final version.

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