Headache after ischemic stroke
A systematic review and meta-analysis

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Study objective and summary result
This study reviewed the literature on characteristics of new-onset poststroke headache and performed a meta-analysis of prevalence. The major finding is that new-onset headache commonly occurs after stroke and may contribute to poststroke morbidity.

What is known and what this paper adds
Associations between preexisting migraine histories and incident stroke are well established, but less is known about new-onset headache after stroke. This investigation reviews the available literature to assess the prevalence of poststroke headache.

Design, size, and duration
The investigators queried the Medline and PubMed databases to identify observational studies and clinical trials, conducted retrospectively or prospectively, that investigated poststroke headache and had English-language abstracts. Suitable studies were included in a systematic review concerning poststroke headache. Studies that focused on adults and reported prevalence data were included in an inverse-variance heterogeneity model meta-analysis that was performed to estimate the overall prevalence of poststroke headache. A meta-regression analysis was conducted to identify factors associated with poststroke headache.

Participants and setting
Of the 1,812 articles identified in the initial search, 50 primary research articles published between 1993 and 2018 were selected for the systematic review. These studies covered diverse populations from multiple countries. Of the 50 studies, 20 studies with a collective sample size of 33,231 people were selected for the meta-analysis. These 20 studies were conducted in Europe, East Asia, the Middle East, North America, and South Asia.

Primary outcome measures
The primary outcome was the estimated prevalence of poststroke headache.

Main results and the role of chance
The reported prevalences of poststroke headache ranged from 6% to 44%. The meta-analysis revealed that the pooled prevalence was 14% (95% CI, 7%–23%). The factors associated with poststroke headache included posterior circulation stroke and female sex.

Bias, confounding, and other reasons for caution
Several studies did not clearly state their diagnostic criteria for poststroke headache, and most did not screen for preexisting primary headache disorders.

Generalizability to other populations
The inclusion of studies from multiple countries favors the generalizability of the results.

Study funding/potential competing interests
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