Recommendation

51. There is insufficient evidence to recommend for or against any specific medication over another for the prevention of migraine headache, tension headache, or cluster headache.
(Neither for nor against | Reviewed, New-added)

Discussion

The comparative evidence for preventive pharmacotherapies is inconsistent, and the current body of evidence does not support the use of any one of the studied preventive pharmacotherapies over another. The systematic evidence review included 11 comparative studies in migraine prevention and one comparative SR in cluster headache prevention. Overall, the quality of the evidence was very low. One RCT comparing topiramate to propranolol for migraine prevention by Mohammadianinejad et al. (2021) did not assess the prespecified critical outcomes for migraine preventive therapies.(367) One RCT by Li et al. (2021) compared topiramate with flunarizine, the latter being a calcium channel blocker unavailable in the U.S.(368)

Migraine Headache

For migraine preventive therapies, some studies compared agents within the therapeutic class. One SR by Wang et al. (2020) and one RCT by Hedayat et al. (2022) compared venlafaxine with other antidepressants, including an SSRI (escitalopram in Wang et al. [2020]) and a TCA (amitriptyline in both studies).(114, 369) Both studies found no difference among these agents in monthly migraine days. Other studies compared across classes. One RCT by Dakhale et al. (2019) compared sodium valproate with propranolol; one RCT by Chowdhury et al. (2022) compared topiramate with propranolol; and one NMA by Overeem et al. (2021) compared all currently available CGRP targeting antibodies with topiramate.(165, 370, 371) Yang et al. (2021) published the most robust NMA comparing all currently available CGRP targeting antibodies, topiramate, and onabotulinumtoxinA.(140) All these studies showed no difference in the head-to-head comparison for the critical outcome of change in monthly migraine or headache days.

Three RCTs suggested superiority of one agent over another for migraine prevention; however, each had either conflicting results with the other studies or significant study design flaws that limited their clinical applicability, or both. Rothrock et al. (2019) compared topiramate with onabotulinumtoxinA and found onabotulinumtoxinA to be superior in the reduction of monthly headache days in patients with chronic migraine.(372) This study was significantly limited by the allowance for patients who did not tolerate topiramate before week 36 to switch to the onabotulinumtoxinA group (which consisted of 80% of the topiramate group). Furthermore, the Yang et al. (2021) NMA also looked at this comparison pair and found no difference in monthly migraine days between the two.(140) The second RCT by Reuter et al. (2022) favored erenumab