Mission: Control—The Future of Headache Therapy

Continued development of acute and preventive treatments could potentially yield effective and reliable therapies.

A Q&A with Nathaniel M. Schuster, MD

Despite the variety of therapies currently available, the future of headache medicine may be more intriguing than the present. Ahead, Nathaniel M. Schuster, MD, a neurologist at Montefiore Medical Center in New York and co-author of a 2015 review on emerging treatments for the primary headache disorders (Neurological Sciences, May 2015) reflects on the future for management of headache.

How would you assess the current state of headache therapeutics as well as research?

“This is a very exciting time in headache medicine,” says Dr. Schuster. “We have a large number of acute and preventive treatments, which, together with trigger avoidance and biopsychosocial interventions, can enable many patients to achieve control over their headaches.” However, he observes, current acute and preventive treatments are not effective for all patients. “Many patients, after weighing the efficacy of their preventive treatments against the costs of medication, compliance, and side effects, opt against preventive treatments. So, he notes, “More effective, better-tolerated treatments are needed.”

On the research front, Dr. Schuster points to several promising areas. “Studies identifying peptides and receptors involved in the pathogenesis of migraine, including calcitonin gene-related peptide and pituitary adenylate cyclase-activating peptide, are exciting on a very practical level because they reveal possible therapeutic targets for which small molecular antagonists or monoclonal antibodies can be developed,” he says. “Ongoing research into the cellular mechanisms by which opioid hyperalgesia develops may lead to new treatments as well.”

Are there any ‘game-changers’ on the horizon?

“Any discussion of potential game changers in headache neurology over the next five years has to start with a discussion of the monoclonal antibodies targeting CGRP or the CGRP receptor,” says Dr. Schuster. “The four monoclonal antibodies currently in clinical trials, should they prove effective in phase 3 trials and be approved by the FDA, would be the first migraine-specific preventive medications approved by the FDA since 1962, and the first preventive medication approved by the FDA for the treatment of migraine since onabotulinumtoxinA in 2010.”

Additionally, he notes that the adverse event profiles of these agents are particularly encouraging. “Since these treatments do not pass through the blood-brain barrier, they likely will not cause fatigue, cognitive side effects, weight change, or other side effects that some patients experience with currently available preventive medications.”

What does the future look like for headache medicine?

“Given that primary headache disorders often affect people during the years that they are in school, working, and raising families, developing preventive treatments that minimize central nervous system side-effects is crucial,” says Dr. Schuster.

Dr. Schuster believes that current activity in various areas relating to headache will be crucial to development of future therapies and best practices. “I’m optimistic that the 2010s will be looked back on as the decade that several new treatments that are both effective and well-tolerated become available for migraine prevention,” says Dr. Schuster. “With onabotulinumtoxinA, we finally have a treatment that is effective for many—although not all—patients with chronic migraine.” Unlike current oral preventive medications, he observes, “OnabotulinumtoxinA doesn’t cause fatigue, cognitive side effects, weight change, or other such undesirable side effects commonly caused by migraine preventive medications, and it relieves patients of the burden of compliance with daily or twice-daily oral medications.”

Dr. Schuster is also hopeful that the monoclonal antibodies against CGRP and its receptor will prove safe and effective in phase 3 trials. “Their routes of administration—intravenously or subcutaneously—will hopefully make patient compliance easier than daily or twice-daily oral preventive medications,” he says. “And I suspect that many patients will prefer these routes of administration to receiving 31-plus injections of onabotulinumtoxinA every 12 weeks.”