



# Neurology and Pain Management

Compassionate Medicine for the 21st century

## **MIGRAINE**

Chronic headache is a common and costly neurological disorder. Estimates suggest that about 11 percent of adult populations in Western countries are affected by migraine. Prevalence is highest during the peak productive years — between the ages of 25 and 55, accounting for the significant economic impact of the condition.

Despite the significant impact of migraine on the individual and society, diagnosis and management remain challenging. Studies indicate that between 56 percent and 91 percent of chronic headache sufferers seek treatment from healthcare providers, yet only one-third report having received a diagnosis of a specific headache condition.

For the majority of patients presenting for neurological evaluation of headaches, effective headache prophylaxis is the key to improved outcomes. Preventative treatments, however, are generally underutilized. One study found that approximately 90 percent of migraineurs have moderate to severe pain, but most “treat their headaches with acute treatments to the exclusion of preventive drugs.”

Indications for preventive therapy include frequent or very severe headaches, excessive acute medication use, severe disability, and patient preference. However, evidence suggests that most patients do not pursue effective prophylactic treatment. As of 2015, the Migraine Research Foundation says only 4% of migraine sufferers

who seek medical care consult headache and pain specialists. Depression, anxiety, and sleep disturbances are common for those with chronic migraine.

Many effective prophylactic medications are associated with significant adverse events (AEs) and often take a few months to notice clinical improvement. In addition, some patients prefer to avoid daily medication and patient compliance can be an issue.

Most preventive medications for migraine, such as many beta-adrenergic blockers, antidepressants, and anticonvulsants, have not been rigorously studied for the treatment of chronic migraine (CM).

Discovered by serendipity, onabotulinum toxin A (BoNT-A) represents the only drug specifically approved for CM prophylaxis after randomized and rigorous studies. We usually perform BoNTA injections every three months, and pain relief typically begins in less than two weeks. Recent clinical trials demonstrate that BoNTA is effective in the treatment of chronic migraine, leading to approval by the US Food and Drug Administration of BoNTA for CM prophylaxis. There are many other reports of BoNTA use in other headache disorders, such as tension-headache, episodic migraine, cluster headache and nummular headache.

In February 2015, the American Headache Society updated its acute migraine guidelines, providing a new analysis on the strength of the evidence. "Some of the newer drugs in combination work. We have evidence, for example, for the new DHE inhaled product, for the sumatriptan patch, and for new formulations of non-steroidals," said study author Stephen Silberstein, MD, FACP of Jefferson University Hospitals, in Philadelphia.

Unmet Need to Treat Chronic Migraine and Cardiovascular Disease. Numerous studies have described a relationship between chronic migraine and stroke, and there is emerging evidence that migraine is also associated with cardiovascular disease, according to a 2015 study.

Until now, only an acute class of drugs (triptans) have been specifically designed and approved for migraine. However, monoclonal CGRP (calcitonin gene-related peptide) antibodies represent a new class of biologics designed for migraine prevention. "While many potential migraine drug targets have emerged over the past 30 years, none have been more thoroughly investigated and appear more promising

than CGRP and its receptor,” according to Dr. Dodick. “The preliminary efficacy and safety findings from these studies are very encouraging.” Confirmation will await the completion of two other Phase II studies with two other antibodies and future Phase III studies.

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