

TIME

THE BIBLE & THE APOCALYPSE

Why more Americans are reading and talking about **THE END OF THE WORLD**



Personal Time

YOUR HEALTH

How to Prevent a Migraine

There's a new wrinkle on headache cures: botox. It often works when nothing else does **By Sanjay Gupta, M.D.**

HALF THE 25 MILLION Americans who get migraines never see a doctor about them. That is a shame, because not only are there plenty of drugs that can alleviate the often debilitating pain of migraines, but there are also whole classes of medications that can prevent them in the first place. These include beta and calcium-channel blockers that improve the flow of blood to the brain, anti-depressants that regulate levels of the brain chemical serotonin and various anti-inflammatory drugs and anti-seizure medicines (epilepsy and migraines, for reasons no one yet understands, seem to have common origins).

Unfortunately, a large group of migraine sufferers—perhaps as many as 9 million in the U.S. alone—find no protection or relief in today's drugs. That is why there was so much excitement at the American Headache Society last week in Seattle about the news that these so-called refractory migraine patients respond well to treatment with Hollywood's new favorite drug: botox.

The discovery that botox can prevent migraines was a lucky accident. Plastic surgeons using diluted botulinum toxin to remove wrinkles started hearing about a secondary

effect. "Patients," remembers Dr. William Binder, "came back saying, 'Not only have my wrinkles disappeared, but my headaches are also gone.'"

As word spread in the medical community, more doctors began offering botox to their migraine patients. Finally, two years ago, a team of scientists at Wake Forest University decided to put the

when inflamed may trigger migraines," he says. But Troost adds that it also seems to interfere directly with the brain's pain-signaling mechanism.

The FDA, which in April approved botox injections for wrinkle removal only, has not yet endorsed botox as a treatment for migraines—although doctors are able to administer it to patients "off label." The treatments are neither easy nor cheap. They involve 30 or 40 injections around the head, temple, jaw, neck and shoulders, cost \$1,000 or more and wear off after three or four months. Some patients will still prefer less invasive preventive measures, such as getting plenty of sleep and cutting back on red wine, chocolate and aged cheeses.

Yet Shirley Kennedy, 52, speaks for many patients when she swears by her botox shots. For 30 years, she says, she suffered from migraines so severe that she felt "as if every hair on my head was about to blow off." That has all changed. "Botox was a lifesaver," she says. "I no longer have migraines." She probably has fewer wrinkles too. **—With reporting by Miriam C. Falco/Atlanta**

Dr. Gupta is a neurosurgeon and a CNN medical correspondent



treatment to a scientific test. They administered botox shots to 134 patients who had not responded to standard migraine treatments. Eighty-four percent reported some improvement; among patients who got the full four-session treatment, the success rate was 92%.

Dr. Todd Troost, chairman of neurology at Wake Forest and lead researcher on the botox study, says he is not entirely sure why botox works. "It appears to relax muscles in the head, neck and jaw that