

# NHF Head Lines

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## Headache Specialist Q&A:

# Triptans: New Drugs May Provide Relief to More Migraineurs

Stewart Tepper, M.D.

### What are the "triptans?"

The triptans are a category of medication that act specifically on a chemical (serotonin) that is involved in the transmission of pain from migraines. While the most widely known and used triptan is sumatriptan, or Imitrex<sup>®</sup>, there are now a total of seven triptans either on the market or soon to be available. A listing of the major drugs in this category is provided in the table below. (Table 1)

### What do the triptans have in common, and how do they work?

All of these drugs are selective serotonin 5-HT (1B and 1D) receptor agonists. This means that they bind to these two particular serotonin receptors involved in migraine, but not to other types of receptors. When a migraine headache is triggered by various causes, blood vessels in the head dilate and other chemicals are released that affect pain

nerve endings. The triptans are believed to work by binding to receptors at the site of these dilated blood vessels, constricting them, and also helping to inhibit release of the chemicals that cause inflammation and pain.

### What are the basic differences between the different triptans?

Clinically, the triptans can be divided into two basic groups based on the way migraine patients respond to them. The first group—which includes sumatriptan, zolmitriptan (Zomig<sup>®</sup>), rizatriptan (Maxalt<sup>®</sup>), and eletriptan (Relpax<sup>®</sup>)—is the faster-acting, higher potency group (see table). This means that most patients experience relief from their migraines earlier after taking these triptans; usually within 30 to 45 minutes for this group, versus 2 to 4 hours for frovatriptan (Miguard<sup>®</sup>) and naratriptan (Amerge<sup>®</sup>). (The latest triptan

**TABLE 1: Triptan Drugs Available or Under Development**  
Fast-acting, High Potency, Higher Headache Recurrence Rate

Generic Name	Brand Name/ Manufacturer	Dosage Forms	Available now?
sumatriptan	Imitrex <sup>®</sup> Glaxo Wellcome Inc.	Tablet, nasal spray, injectable	Yes
zolmitriptan	Zomig <sup>®</sup> Zeneca	Tablet; other forms being studied	Yes
rizatriptan	Maxalt <sup>®</sup> Merck	Tablet and orally disintegrating tablet	Yes
eletriptan	Relpax <sup>®</sup> Pfizer	Tablet	No
almotriptan	(not announced) Pharmacia and Upjohn	Tablet	No

Intermediate-acting, Lower Potency, Lower Headache Recurrence Rate

Generic Name	Brand Name/ Manufacturer	Dosage Forms	Available now?
naratriptan	Amerge <sup>®</sup> Glaxo Wellcome Inc.	Tablet	Yes
frovatriptan	Miguard <sup>®</sup> Elan/Carnrick	Tablet	No

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# Migraine Headache in Children

Randall Lee Oliver, M.D.

In recent years, physicians have discovered that the prevalence of migraines in the general population is much higher than originally expected. This is also true of migraine in children. Although headache specialists have debated whether the major cause of children's headaches is tension-type or migraine, I have observed that almost all cases of headaches in children have characteristics of migraine (except those caused by head injury or severe psychological stress). In a study of 100 children with headaches by the U.S. Naval Hospital in Portsmouth, VA, 93% had migraines, of which 65% were migraine without aura. Studies conducted in other countries have shown similar findings.

## Recognizing headaches in children

Recognition of migraines in children has improved in recent years. In a 1974 Finnish study, only 1.9% of children entering school were diagnosed with migraines, while in 1992 this percentage increased to 5.7%. Family history of migraines is commonly found in these patients.

There is a strong correlation between parents and children with migraines, leading to the belief that migraine may be a genetic disease. In an interesting study of almost 9,000 Swedish schoolchildren, the investigator found that children inherit more often from their mothers (72.6%) than from their fathers (20.5%). Investigators at a headache clinic here

in the U. S. reported that 65% of their juvenile patients with migraines had relatives with migraines as well. Another factor that is nearly always present in children with migraine is a "Type A" personality. These children are often unusually intelligent, polite, meticulous, and eager to please.

Among children in particular, migraines can include symptoms in the absence of headache, such as abdominal distress, cyclic vomiting, personality changes, and sudden fatigue. This is basically a "migraine without a headache," sometimes called acephalgic migraine. Many of these children, when treated for migraine, are relieved of these symptoms. Personality changes such as irritability, either immediately before or after the headache, are also common. One study estimated that 75% of children who exhibited recurrent abdominal pain and cyclic vomiting developed migraines as adults. Acephalgic migraines (those without headaches) usually begin in late childhood and often include an aura.

## Relieving children's migraines

Headaches in children should be treated as rigorously as those in any adult. Just because they are younger does not mean they do not suffer from the immense pain of migraines. There has been very little use of pharmacological agents for abortive or prophylactic therapy in children. At our clinic, we aggressively treat our pediatric migraine patients with a variety of medicines. For abortive purposes (relief



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of a headache that has already begun) we have often prescribed simple analgesics such as acetaminophen, aspirin, ibuprofen, and Midrin<sup>®</sup> (a combination of two other drugs plus acetaminophen) all dosed appropriately for the child's age. Our best results, however, have come from the migraine-specific medicines such as those in the triptan family and dihydroergotamine, or DHE. In 29 children for whom sumatriptan (Imitrex<sup>®</sup>) was prescribed, virtually all experienced relief with this treatment;

only two had significant side effects (such as increased heart rate), while a total of five discontinued use of the drug. With Imitrex, relief of acute pain can begin as early as 10 minutes after use; approximately 75% of adult patients experience relief in one hour.

Although our main experience in children is with sumatriptan, newer triptans that have been developed recently include zolmitriptan (Zomig<sup>®</sup>) and naratriptan (Amerge<sup>®</sup>). We have prescribed zolmitriptan to one child with atypical migraines



and it seemed to help where sumatriptan failed. Some children who do not get relief with sumatriptan may be helped with DHE.

## Preventing migraine in children

For prevention of childhood migraines, the mainstays are oral medicines (beta-blockers or a calcium channel blocker, specifically verapamil) or the anti-seizure medicine Depakote®. When a child is given these medications, the physician must monitor the child's blood pressure because one side effect is hypotension (low blood pressure), and children's normal blood pressure tends to be on the low side to begin with.

Divalproex sodium (Depakote®) or other anti-seizure drugs have also been used to prevent migraine in children, although they are FDA-approved for migraine only in adults. We have used proex in 16 child migraine patients, with only two treatment failures.

## Educating the child about migraine

Both the parents and the child must recognize that migraine is a long-term disease. Most migraines begin in childhood. Although many articles have stated that migraines eventually disappear in the majority of children, we have not found this to be the case. At our clinic, most of our adult migraine patients report that their headaches began in childhood or early adolescence. It is possible, however, that cases such as benign paroxysmal vertigo (dizziness brought on by certain head positions) and benign torticollis (a condition

involving spasm of the neck) may often be misdiagnosed as migraine, and these conditions do normally disappear after childhood.

Children with migraine typically suffer from more general bodily complaints, stress, psychological symptoms, and school absences, than those without headaches. Some investigators have observed that children with migraines are generally more sensitive, less physically enduring, more tidy, and more vulnerable to frustration than those in a control group. For these and other reasons, parents need to be very understanding of the child's problems.

If you are the parent of a child with migraine, it's important to understand the instructions given to you by the child's doctors. You need to educate yourself in the possible migraine triggers and the usual clinical course of your child's migraine.

## When headache might have a more serious cause

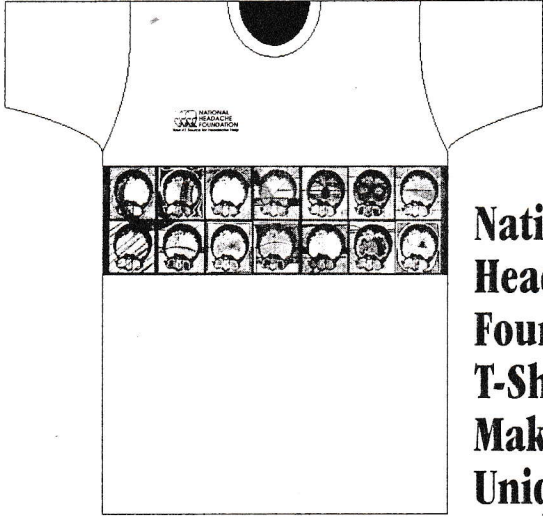
Childhood migraines normally are not an indicator of any other disease process. However, there are instances in which children begin to have migraines as a sign of a more serious problem. Migraines in children should be investigated further if there is a very severe headache with marked loss of strength, a change in the normal pattern of the headache or different type of headache, pain keeping the child awake at night, pain primarily beginning early in the morning, or pain associated with neurologic symptoms such as weakness in an arm or leg or visual disturbances.

Also, since most migraines occur in the front or sides of the head, a rare headache at the back of the head should be further investigated for another possible cause.

Migraines in children are underdiagnosed and underestimated. They are a significant debilitating disease process and should be treated as such. Drugs for treatment and prevention of

migraine in children are available, and while they should be dosed appropriately for the child's age, they can be safely used with proper supervision by a physician. ♦

*Dr. Oliver is medical director of the Oliver Headache & Pain Clinic in Evansville, IN, specializing in the treatment of headache, chronic pain, fibromyalgia, and chronic fatigue syndrome.*



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