

intensity, and aggravated by routine activities. In others, however, the entire head may hurt and not throb. Usually there is nausea but vomiting may also occur. The nervous system becomes sensitive to light and sound. Thinking may be difficult. Muscles in the head and neck often become painfully tender. If untreated, the headache may last from 4 to 72 hours; in some circumstances, even longer. Generally, the migraineur wants to be left alone in a dark quiet place.

The headache phase usually produces the greatest disability for the

“The pounding pain and sick stomach interfere with my life.”

migraineur. The attack often disrupts family events, interferes with productivity at home and work, and may cause absenteeism from school or work. On average, a migraineur misses 3.2 days of work per year and may function at less than 50% of full capacity while at work up to 6 days a month. The cost of migraine to society is estimated to be up to 17.2 billion dollars per year. The good news is, based on the findings of recent studies, that treatment in the workplace lessens lost productivity by almost 50%.

The next phase of migraine is the **resolution phase**. How migraines eventually resolve is still a mystery. Most of the time migraines resolve with sleep and an important brain communication chemical, serotonin, is restored in the brain and surrounding tissue.

Occasionally, and especially in children, vomiting will stop a migraine. This may be due to a release of serotonin that is stored in the intestinal track. Rarely, migraines terminate during an intense emotional response; seemingly during an emergency, the brain draws from its reserves to let the person manage the situation.

The final phase of an acute migraine attack is the **postdrome**, consisting of lingering symptoms that resemble a hangover or flu-like symptoms. Though not universally present, postdromes generally follow migraines that are long in duration. Common symptoms of a postdrome include fatigue, poor concentration, irritability, queasy

stomach, and tender muscles. Postdromes can usually be treated with rest or over-the-counter medications such as aspirin or naprosyn.

Nature's antidote to the migraine process is to shut down the nervous system. This may explain why light hurts or sound needs to be avoided. In general, during an attack of migraine people desire a dark quiet room where they can be left alone until the storm passes. The resolution of migraine involves rebalancing the brain chemistry. Serotonin seems to be at the center of this readjustment.

Serotonin levels in the brain drop during an attack of migraine. And conversely, resolution of migraine occurs when levels of this important brain chemical return to normal. Because serotonin is involved in many communication systems within the brain, if doctors attempt to treat migraine directly with serotonin, unwanted symptoms occur. Recently chemists have devised an artificial form of serotonin that can temporarily replace real serotonin in certain areas of the nervous system. This compound is called sumatriptan or Imitrex and has revolutionized the understanding and treatment of acute attacks of migraine.

Other similar compounds are being developed to treat migraine. These medications not only relieve headache pain in a large number of migraine sufferers but also return most to normal levels of function within a short time. This has set a new standard of therapy for acute migraine. Successful treatment of an acute migraine attack is the cornerstone of effective migraine management but it is only the beginning of managing the nervous system of a migraineur.

Managing the Migraineur

Migraineurs may have a variety of different types of migraine attacks. Some of the more common types are migraine occurring with aura, migraine without aura, early-morning migraine, migraine related to menstruation, or a slow-developing migraine that may take hours or even days to declare itself. Specific treatment strategies need to be developed for the various types of migraine presentations. For exam-