

# Feverfew in the Treatment of Migraine

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Over 45 million Americans suffer from chronic headaches; of these, 16 to 18 million suffer from migraines annually.<sup>1</sup> It is estimated that industry loses 50 billion dollars per year due to absenteeism and medical expenses caused by headache, and migraine sufferers lose more than 157 million workdays each year. In excess of 4 billion dollars are spent annually on over-the-counter pain relievers for headache, many of which prove ineffective.<sup>1</sup>

## HEADACHES AND THEIR TRIGGERS

There are many types of headaches, each with its own set of causes, symptoms, and points of pain. The more common types include tension, cluster, migraine, allergy/sensitivity, sinus, trauma, and eyestrain headaches.<sup>2</sup> However, all headaches are related in that each one is a response to a metabolic, structural, and/or emotional imbalance. Headaches may be triggered by factors that fall into 8 broad categories: dietary sensitivities, environmental irritants, hormonal imbalances, digestive disturbances, autoimmune disturbances, lifestyle factors, structural imbalances, and mental stress.<sup>2</sup>

## MIGRAINE HEADACHES

In the last 10 years, the incidence of migraine among all age groups in the U.S. has risen more than 60%.<sup>2</sup> Migraine may occur at any age but usually begins between ages 10 and 30, and occurs more often in women.<sup>3</sup> Migraine is an episodic disorder that causes severe pain of a throbbing nature that is primarily one-sided, although for some the pain is generalized.<sup>2,3</sup> The pain can be accompanied by lightheadedness, nausea, vomiting, dizziness, blurred vision, hot and cold flashes, and a marked sensitivity to light, noise, and smells.<sup>2</sup> Untreated migraine attacks may last for hours or days.<sup>2,3</sup>

Although the theories regarding the underlying causes of migraine vary considerably, it is widely believed that all migraines ultimately relate to abnormal platelet behavior. During a migraine attack, platelets have a tendency to over-aggregate and release serotonin, causing abnormal constriction and dilation of the blood vessels in the head, which stimulates nearby nerve endings and causes headache.<sup>2,4</sup>

## FEVERFEW: AN ANCIENT HERB FOR MODERN TIMES

Feverfew (*Tanacetum parthenium*) has been used for centuries as a febrifuge and for the treatment of migraines and arthritis.<sup>4,8</sup> The rationale for its long history of use in the treatment of inflammatory conditions has now been confirmed through in vitro studies on feverfew extracts. These studies have shown that the extract inhibits platelet aggregation; inhibits the secretion of inflammatory and allergic mediators such as histamine and serotonin from platelets and leucocytes; and inhibits synthesis of prostaglandins in various cells and tissues, preventing spasms of blood vessels in the head that trigger migraine attack.<sup>4,6,8-10</sup>

The cumulative result of this activity is a reduction in the severity, duration, and frequency of migraine headaches and an improvement in blood vessel tone.

Two well conducted clinical trials of feverfew for migraine prophylaxis have shown encouraging results. The first double-blind study involved 17 people who were already treating themselves by chewing fresh feverfew leaves regularly for prophylaxis against migraine and were randomly assigned to receive either powdered feverfew leaves in capsule form (50 mg/day) or placebo for 6 months.<sup>5</sup> Patients switched to placebo experienced a significant increase in the frequency and severity of headache, nausea, and vomiting, while patients who continued to take feverfew showed no change in the frequency or severity of symptoms of migraine. The abrupt discontinuation of consumption of feverfew after several years' use led to the recurrence of incapacitating migraine in some patients, two of whom withdrew from the study to resume use of raw feverfew leaves.

The second study assessed the use of feverfew in a randomized, double-blind, placebo-controlled crossover study of 72 migraine patients.<sup>4</sup> The patients received either one capsule of dried feverfew leaves a day (82 mg) or placebo for 4 months and then transferred to the other treatment limb for a further 4 months. Of the 59 patients who completed the study, there was a 24% reduction in the number of attacks during feverfew treatment and a significant reduction in

nausea and vomiting accompanying the attacks. However, the duration of individual attacks was unaltered.

Clinical studies have shown that feverfew possesses other medicinal benefits, such as relieving nausea and vomiting, relieving the inflammation and pain of arthritis, promoting restful sleep, improving digestion, and relieving asthma attacks.<sup>11</sup>

Feverfew is rich in a family of compounds known as sesquiterpene lactones, principally parthenolide, which is believed to be responsible for feverfew's effects.<sup>4,6,12</sup> The proper parthenolide content is essential for the activity of feverfew to take place. Feverfew preparations used in successful clinical trials had a 0.4% to 0.66% parthenolide content, providing a parthenolide dosage of 250 to 500 mcg/day. Clinical experience has indicated that 4 to 6 weeks are required to note a response, with continuous usage recommended for the treatment and prevention of migraine.

Only minimal side effects have been noted with the use of standardized feverfew tablets. However, feverfew is related to ragweed and, like ragweed, has a high allergenic potential. The chewing of feverfew leaves has resulted in ulceration of the mouth in about 10% of cases<sup>5,11</sup> and cases of contact dermatitis have been reported by those who handle feverfew.<sup>6,10</sup> Feverfew should not be used by pregnant or lactating women.

### COMPLEMENTING FEVERFEW WITH ASIAN BOTANICALS

While feverfew has been shown to be effective as a prophylactic for migraine and other headache sufferers, herbs that support underlying systems, such as the liver, may also be beneficial. Many headaches are triggered by allergies or some other sensitivity to substances such as MSG, certain foods, carbon monoxide, alcohol, smoke, and other environmental toxins.<sup>2</sup> A healthy liver is essential in clearing these toxins from the body. Traditional Chinese medicine (TCM) has long acknowledged the importance of the liver, gallbladder, large intestine, and proper digestion in managing a wide variety of pain syndromes.

A water extract or decoction of scute (*Scutellaria baicalensis*), a powerful Asian plant focused on removing toxins from the body, is used to treat headaches.<sup>13,14</sup> From this perspective, "clearing the blood" via the liver, gallbladder and intestine "clears the head." Scute is rich in flavones such as baicalein,<sup>13,14</sup> which has been shown to possess potent antioxidant properties and inhibit lipid peroxidation,<sup>15-18</sup> a contributing factor to chronic inflammation. Ginger rhizome (*Zingiber officinale*) and the fruit of the bitter orange (*Citrus aurantium*) are traditionally used to promote healthy digestion and proper assimilation of food by strengthening the stomach and spleen (pancreas).<sup>13</sup> Bitter orange and ginger

may help to reduce the absorption of potential food antigens from the diet by improving the body's ability to thoroughly digest a meal.<sup>14</sup> Current investigations of bitter orange also reveal a food with strong antioxidant properties owing to its flavonoid profile, most notably naringin.<sup>19</sup>

Combining a decoction of scute, ginger, and bitter orange with feverfew extract may lower susceptibility to headaches by enhancing the intake of assorted flavonoids with strong antioxidant and antiinflammatory properties. These herbs also balance digestion and support the pathways of detoxification, both potential contributors to chronic headaches and pain. In addition, the leaves and aerial parts of the following aromatic herbs make a soothing tea which may help provide headache relief: lemon balm (*Melissa officinalis*), peppermint (*Mentha piperita*), thyme (*Thymus vulgaris*), lavender (*Lavandula officinalis*), and rosemary (*Rosmarinus officinalis*).

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