Let’s begin this article with an overview of the Western biomedical research on migraine as it relates to the menstrual cycle. Migraine occurrence is statistically higher 0-2 days prior to menses, 0-5 days after menses begins, and at mid-cycle, during the ovulation phase (Johannes, 1995, p. 1076). Hormone levels rise and fall with the menstrual cycle. Migraines induced by the onset of menses, at mid-cycle, and again premenstrually, are related to the abrupt fall in estrogen. Premenstrual migraines are associated with the fall of estrogen and progesterone levels. Estrogens "induce vasodilation through mechanisms involving the arterial endothelium and through endothelial-independent actions. Progestins have varying effects on arterial tone, including induction of vascular smooth muscle relaxation, as well as smooth-muscle constriction," (Sarrel, 1999, p. 205). Estrogens also promote blood clotting, which may play a role in menstrual migraines. Studies have shown that women with menstrual migraines do not have different levels of these hormones; rather, they respond more sensitively to the changes in hormone levels (Loder, 2001, p. 189).

The platelets of migraine sufferers are quite different from normal platelets, both during and between headaches. There is a significant increase in the amount of aggregation, in the manner of serotonin release, and in the structural composition of platelets. The biggest factor is the difference in serotonin metabolism. Serotonin plays a major role in the state of relaxation or constriction of blood vessels, and is used in the chemical transfer of information from one cell to another. There seems to be no difference in total serotonin content between normal platelets and the platelets of migraine sufferers; however, the quantity increases until a migraine is produced.

Vascular instability can play a major role in migraines. The blood vessels of the temple are often visibly dilated. Although the vessels are dilated, the person often appears pale, suggesting the dilation of large vessels and the constriction of small vessels. Studies measuring blood flow to the brain show a reduction of blood flow. Often, the blood flow is quite low prior to a migraine attack. This is followed by a stage of increased blood flow, which may last up to 48 hours. Some evidence suggests that migraine patients have an
inherited abnormality in their control of blood vessel constriction and dilation. Migraine sufferers experience dizziness upon standing and seem to be unusually sensitive to physical and chemical changes in blood vessels.

Now, let’s look at the famous formula tong qiao huo xue wan. This formula is used classically when blood stasis has been diagnosed in the head and is particularly useful in the treatment of menstrual migraine. We can examine each herb in the formula for TCM indications and pharmacology.

- **Chi shao** (red peony) - invigorates the blood, dispels blood stasis, clears heat, cools the blood, and clears Liver fire. Tranquilizing, analgesic, anticonvulsive, and coronary artery-dilating.

- **Chuang xiong** (ligusticum) - useful for all types of headaches, invigorates blood, expels wind, and alleviates pain. Antispasmodic, tranquilizing, hypotensive, and vasodilative.

- **Cong bai** (green onion/scallions) - disperses cold, unblocks yang, and relieves toxicity. Sudorific, antipyretic, and expectorant.

- **Da zao** (jujube) - tonifies spleen, nourishes blood, harmonizes herbs, and reduces toxicity. Anti-allergic.

- **Hong hua** (safflower) - invigorates blood, dispels blood stasis, and alleviates pain. Hypotensive and dilates coronary arteries.

- **Sheng jiang** (fresh ginger) - warms the middle jiao and alleviates vomiting, and reduces toxicity of other herbs. Anti-emetic, stomachic, sudorific, and vasodilator.

- **She xiang** (musk) - opens orifices, invigorates blood, reduces swelling, and alleviates pain. CNS stimulant, hypotensive, and anti-inflammatory.

- **Tao ren** (peach kernel) - breaks up blood stasis, especially in menstrual disorders. Anticoagulant, hypotensive, antiphlogistic, and analgesic.

Through the integration of biomedical research and TCM theory, we can see how useful this formula can be in the TCM treatment of menstrual migraine. Clinically, I administer this formula with the initial onset of symptoms. I have worked with several brands, and recommend a dosage of 10 to 12 pills every 4 to 6 hours, depending on the size of the patient and the severity of the migraine. This strategy has proven quite successful in the prevention and treatment of severe migraine. Many sufferers report the prevention of a migraine attack with a few doses of tong qiao huo xue wan.
Additionally, I treat the constitutional pattern. It may be Liver qi stagnation, Liver fire, phlegm damp, blood deficiency, or Kidney and Liver yin deficiency with ascending yang. By treating both root and branch, we can treat the whole person and reduce the number, severity, and duration of migraines induced by the menstrual cycle.

**Resources**


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