Herb Formula for Hangover and for Reactions to Rich Foods, Herbs, and Drugs

Pueraria Flower Combination is a formula of Li Gao (1180-1252 A.D.), leader of the Spleen-Stomach School of the Jin-Yuan Medical Reform Period. This formula was published both in his book Pi Wei Lun (Treatise on the Spleen and Stomach, 1249 A.D.), and posthumously in the book of his commentaries Lanshi Micang (Secrets of the Orchid Pavilion, 1276 A.D.). The Pi Wei Lun is Li Gao’s most famous work and explains how food and drink taken excessively, or chosen improperly, can damage the central organs and lead to numerous diseases. The latter book deals with treatment of selected disorders, divided into 21 groups. Lanshi Micang provides a continuation of Li’s philosophy of treating the spleen and stomach to cure many conditions, and the formulas in this book were mostly those he had designed.

The name of the formula, Gehua Jiexing Tang, means the Pueraria Flower Decoction to Relieve and Awaken; it was designed to relieve the remnants of “alcohol toxin”: to get rid of a hangover. In addition to counteracting the toxins, the formula corrects the imbalance of the stomach and spleen. The formula has also been labeled Gehua Jiecheng Tang (or San): Pueraria Flower Decoction (or Powder) to Resolve Hangover.

Li Gao was concerned about the practice of drinking distilled liquor that had become popular during the Yuan Dynasty (when China was controlled by the Mongolians). Historians continue to debate when distilled liquor was first a commodity in China, some finding passages in old texts that might trace it back as far as the Han Dynasty period, about 2000 years ago. Other investigators believe that it appeared later, and that there was likely some liquor available during the Tang Dynasty, when both tea and wine (non-distilled beverage) were regulated monopolies of the central government. The distilled liquor known as Fenjiu (meaning white liquor, distinguishing it from yellow wine), still consumed in China today, has been suggested to come from that time, nearly 1500 years ago. During the Southern Song Dynasty (1127-1280 A.D.) and Jin Dynasty (Northern Dynasty coexisting with Southern Song), distillation equipment was described in books; a copper distiller from this era was found by archeologists in Hebei Province, northern China.

While the earliest times when distilled liquor was made in China remains debatable, it is agreed that distilled liquor became prevalent during Li Gao’s lifetime. Li Shizhen, famous for his Bencao Gangmu (Compendium of Materia Medica, published posthumously in 1596), was the first person to comment specifically on the timing of this development. He wrote that the distilling of alcoholic liquids did not come down from the ancient generations, but started in the Yuan Dynasty, and that its process was as follows: heat the alcoholic mixture to steam, which would then be collected and cooled by a special device submerged in liquid. This method of preparation had been described by the historian Ye Ziqi who lived in the early Ming Dynasty. He states in his book Caomuzi (Ming Dynasty Notes of Ye Ziqi, ca. 1450): “The standard alcoholic liquor is the distilled liquor, which is heated in a device and cooled, named Arrak, its flavor is strong and hot, and its color crystalline clear, its quality is dew-like; it did not exist in ancient times.” Distilled liquor was often referred to as alcohol dew, because of the way it is produced as drops of condensed vapor. Arrak, and the distillation process to make it, may have been introduced from India.
It will be seen that Li Gao’s description of the effects of jiu refers to consumption of distilled liquor rather than ordinary wine (also called jiu; the main non-distilled wine is shaoxingjiu, produced from glutinous millet or rice); a consideration of some importance, as it clarifies his commentary about the adverse effects of drinking it:

Liquor is intensely hot and toxic. It is yang both in qi and flavor. It is an intangible substance [clear, light, and volatile]. If a person is damaged by it, the only option is to effuse and dissipate it, with a cure occurring immediately following perspiration. The next best choice is to promote urination. These two methods separate and disperse dampness accumulated below and above. These days, alcoholics are usually given an intensely hot formula, such as Jiu Zhen Wan [Liquor-Relieving Pills made of realgar, croton seed, and scorpion tails], to effect purgation. Some take pharbitis seeds (qianniu) and rhubarb root (dahuang) to purge themselves of the toxins. However, this action strongly disperses tangible blood when, in fact, intangible qi is what is afflicted. It is a colossal mistake. Already damaged by liquor, whose nature is intensely hot, the original qi now suffers from further drainage. What’s worse, kidney water is also damaged. Both kidney yin and tangible blood thus become insufficient, weaker now, by the treatment, than before. Hence, heat from the yang toxins becomes tremendously effulgent and yin fire increases. This is consuming the original qi, and shortening life! Even if that doesn’t happen, deficiency disease will develop. Similarly, liquor-drinking that induces yellow jaundice, if treated by this method, will develop into more serious black jaundice. Caution must be taken not to commit this blunder. Gehua Jiexing Tang is the correct formula to use. If one sweats, even if only a little, the hangover will be gone. This remedy should only be used if necessary; no one should think that they can dissipate themselves daily by excessive liquor consumption once in possession of this formula. This formula is acrid in qi and hot in flavor, and only taken to cure a hangover once in a long while, otherwise, it too may cause detriment to the original qi. There is no assured remedy for the results of drinking excessively all the time.

Here Li is commenting on some of the remedies offered at the time, which were used to vigorously purge the body of the toxins and congested fluids, but which he was sure would do more harm than good. Rather than considering that liquor simply filled the body with an excess to be removed, he believed that the liquor caused a weakening of the stomach and spleen, and that purging would simply weaken these organs further and go on to damage blood and yin. The particular wine-relieving pills mentioned here were inherently toxic, as we know today: croton seed contains the poison ricin and realgar is primarily arsenic. Of course, these introduced toxins wouldn’t stay in the body long: almost all of it would be eliminated along with whatever contents remained in the stomach and bowels.

In place of purging, Li believed that inducing a mild perspiration, strengthening the spleen, and regulating the fluids would take care of the problem. This approach is reminiscent of that taken by the famous herbalist of the Han Dynasty, Zhang Zhongjing, in his book Shanghan Lun. In that text, devoted to treating a certain epidemic disease called shanghan, he cautioned against the usual remedies of intensely purging the body, and, instead, promoted the idea of inducing mild perspiration and tonifying, as with his formula Cinnamon Combination (Guizhi Tang). In Li’s case, the formula, which is to be taken only occasionally, is strongly dispersing in nature, but it is not a purging formula; like Cinnamon Combination, it has tonifying and mild perspiration-inducing properties. The induced perspiration is a sign that the stagnated qi and fluid at the body center has begun to flow and can now freely reach the surface, thus, the problem at the center has been resolved. Most important, the qi of the stomach and spleen is also restored.

From modern investigations, we know that alcohol itself contributes only partly to a hangover; impurities in the production of alcoholic beverages produce most of the hangover symptoms. Those who drink excessively are usually acclimated to consumption of alcohol, so their liver enzymes are elevated and able to metabolize the
alcohol that is consumed. Alcohol metabolism by liver enzymes produces some acetaldehyde, which can generate hangover symptoms. Substances that are created by the fermentation process of the raw materials used in making a particular alcoholic beverage and which impart the characteristic smell and taste are called congeners. These substances, and their metabolites generated by the action of liver enzymes, may also produce symptoms; this is why some beverages have a higher incidence rate for hangover symptoms than others with the same alcohol content. The dictum of not mixing different kinds of alcoholic beverages may owe its origins to the fact that by combining congeners of different types in one session of drinking the incidence of symptoms becomes elevated, so that a hangover is virtually assured. Even without mixing, though, the congeners of sorghum liquors used in China are well-known to cause hangovers.

From the Chinese point of view, alcoholic beverages generally—not just the distilled liquor—introduce damp heat into the system, and, with large amounts, overwhelm the stomach and spleen, causing these organs to become overly damp. This damp and heat inhibits the normal flow of qi, and contributes to discharge of fluids via vomiting, diarrhea, runny nose, or frequent urination (or some combination). Pueraria Flower Combination is designed to neutralize the heat and toxins and disperse the stagnated qi and fluid to rapidly restore normal health.

In the Chinese herbal system, many kinds of legumes are used as detoxicants; these include mung beans, soy beans, hyacinth beans (dolichos), and licorice roots. In this case, the Leguminous flower of pueraria (kudzu) is the lead herb, used to dispel toxins and clear heat. It is the ideal herb for this formulation, as its reputation is to specifically relieve alcohol poisoning and to invigorate the spleen.

The complete formula for Pueraria Flower Combination, using modern dosing for decoction, is:

- **Pueraria flower** (gehua) 6 g
- **Cluster** (baidoukou) 6 g
- **Cardamon** (sharen) 6 g
- **Hoelen** (fuling) 6 g
- **Atractylodes** (baizhu) 3 g
- **Ginseng** (renshen) 3 g
- **Alisma** (zexie) 3 g
- **Polyporus** (zhuling) 3 g
- **Citrus** (chenpi) 3 g
- **Blue citrus** (qingpi) 3 g
- **Shen-chu** (shenqu) 3 g
- **Ginger** (ganjiang) 3 g
- **Saussurea** (muxiang) 1 g

Traditionally, the herbs are ground to powder that is stored and then used when needed by briefly decocting it or infusing with boiled water (taking about 6-12 grams of the powder as a single dose, which may be repeated). Only a short decoction time is needed for powders; prolonged boiling will result in loss of aromatic components.

The main part of the formula, aside from pueraria flower, is a collection of herbs that regulate qi and dispel moisture. Cardamom, cluster (a variety of cardamom, known as round cardamom), and ginger are members of the Zingiberaceae family. They contain spicy and aromatic ingredients, with borneol as a common component (borneol is light and penetrating). These three herbs are complemented by bitter and spicy citrus materials (peel of both ripe and unripe tangerine) and the aromatic saussurea, all of which overcome congestion and regulate smooth flow of qi. The remainder of the formula involves herbs that promote the function of the spleen to distribute moisture and overcome
its damp congestion (i.e., ginseng, atractylodes, hoelen, alisma, polyporus, shen-chu); they restore its original qi. The central stagnation of qi and fluid, when cleared, will help the person feel normal again; a condition that will be maintained by the revitalized spleen qi.

Pueraria Flower Combination need not be reserved only for cases of alcoholic hangover; the same principles of therapy would apply to the development of some of the same symptoms from, for example, overeating rich foods or from some food poisons, and from herbs and drugs that cause reactions that may be similar to hangover symptoms.

This formula has not been emphasized in modern medicine books from China—in most cases, not even included—because excessive consumption of alcohol went against the tight government policies in place for decades after the revolution of 1949. Distribution of alcohol was extremely limited, though the situation has now changed. Instead, this formula became popular as part of Kampo (Japanese practice of Chinese herbal medicine); in Japan, drinking sake was a common practice amongst stressed businessmen.

When recommending the formula today for hangover, it is important to inform users that the herbs are intended to resolve the typical secondary symptoms of excess alcohol consumption but they do not limit or remove any of the immediate effects of alcohol, such as impairment of physical reflexes and risks associated with driving or operating potentially dangerous machinery. The herbs do not remove risks of alcohol consumption during pregnancy or other general health risks of excess alcohol consumption. To reinforce this idea, it is worthwhile to describe the formula as a treatment for the heavy, damp, and gastro-intestinal effects of over-consumption of both food and drinks, and not the intoxicating effect of alcoholic beverages. And, as Li Gao pointed out, having this formula available is not an excuse to drink excessively.