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RE: Herbal Approaches to the Prevention and Treatment of Viral Hepatitis

Yarnell E, Abascal K. Herbal medicine for viral hepatitis. *Altern Complement Ther.* June 2010;16(3)151-157.

Several strains of hepatitis viruses cause serious illness worldwide. Hepatitis virus A (HAV) and B (HBV), now fairly well controlled in the developed world due to the availability of vaccines, remain common in the developing world. There is no vaccine for hepatitis virus C (HCV), although it, too, has been reduced in developed countries by screening blood products. Intravenous (i.v.) drug users are at risk for contracting HCV.

HAV causes acute hepatitis. There is no effective treatment. HBV causes chronic hepatitis treated by several drugs. All are costly, risky, and offer uncertain benefits. HCV causes chronic hepatitis treated with injected pegylated interferon and oral ribavirin. This treatment is expensive, often causes adverse effects, and is often ineffective, especially against the HCV genotype most common in the US and Europe.

Andrographis (Andrographis paniculata) leaf, from Southeast Asia, is used traditionally for liver problems. In some studies, it has also proven beneficial in acute upper respiratory viral infections. In one open trial and a Chinese case series, andrographis sped symptom resolution in acute HAV. Milk thistle (Silybum marianum) seeds and silymarin, a flavonolignan complex found in them, have shown benefits in several strains of acute hepatitis and other viruses. An Indian formula, Liv.52, was deemed effective in acute hepatitis in low-quality clinical trials. Despite limitations of the reports, it appears this combination of caper bush (Capparis spinosa), chicory (Cichorium intybus), arjuna (Terminalia arjuna), black nightshade (Solanum nigrum), and other herbs is more effective than placebo. Chinese herbalists have used yin-chen wormwood (Artemisia capillaris), and a formula with this herb and others, Yin Chen Hao Tang, in acute hepatitis with jaundice. Mexican white sagebrush (A. ludoviciana) can substitute for yinchen wormwood. Many antiviral herbs might help people recover from acute hepatitis more quickly, such as osha (Ligusticum porteri), lomatium (Lomatium dissectum), or St. John's wort (Hypericum perforatum). A base formula for acute HAV uses 40% dandelion (Taraxacum officinale) root with andrographis, Mexican white sagebrush, osha, and licorice (Glycyrrhiza glabra).

Chronic HCV progresses slowly to cirrhosis of the liver or hepatocellular carcinoma (HCC). One large trial has demonstrated that interferon treatment for several years was ineffective in halting progression. Glycyrrhizin, a licorice triterpenoid saponin, given by i.v. injection with glycine and cysteine, reduced serum levels of alanine aminotransferase in HCV patients but did not show clear improvement in liver histology. In Japan, the same combination, Stronger Neominophagen C (SNMC), reduced the risk of cirrhosis and HCC. I.v. glycyrrhizin has also been combined with ursodeoxycholic acid, ribavirin, and phlebotomy to reduce systemic iron and oxidative load. High doses of glycyrrhizin can lead to sodium retention and low potassium levels, in a dose-related toxic response. Oral licorice products might benefit those who cannot tolerate or do not have access to i.v. treatments. Many studies have shown that phlebotomy and a low-iron diet reduce progression to HCC. Some clinical trials, most published before HBV and HCV were clearly distinguished from each other, found that silymarin extracts could prolong lives of patients with chronic hepatitis. A recent Cochrane meta-analysis found that silvmarin can prevent death from liver disease in general. This benefit is not evident when only the highest quality trials are considered. Silymarin research often involves patients with many different liver problems. Thus, its specific effects in hepatitis remain unclear.

Many herbs deserve more study in relation to HCV. Among immunomodulators, schisandra (*Schisandra chinensis*) and astragalus (*Astragalus membranaceus*) are traditionally considered liver supportive. Hepatoprotective herbs include burdock (*Arctium lappa*). Turmeric (*Curcuma longa*) has a strong history as a liver protective, is anti-inflammatory, and guards against iron overload.

Chronic HBV is more likely than HCV to progress to cirrhosis and HCC. Long-term drug therapy often creates viral resistance. A traditional Eastern formula (in Chinese, Xiao Chai Hu Tang; in Japanese shosaiko-to), Minor Bupleurum Decoction, combines bupleurum (Bupleurum falcatum), peony (Paeonia lactiflora), pinellia (Pinellia ternata), cassia (Cinnamomum aromaticum syn. C. cassia), ginger (Zingiber officinale), jujube (Ziziphus jujuba var. spinosa) and other herbs. Used prior to 220 B.C.E., this formula is very useful in epilepsy. Trials have demonstrated its ability to reduce serum transaminase levels and HBe antigen levels in HBV patients, and to prevent HCC. Patients without hepatitis surface antigen (HBs) had the best results. An extract of Chinese salvia (Salvia miltiorrhiza) inhibits HBV in vitro and is reported to reduce liver fibrosis caused by chronic HBV. A Chinese salvia compound, salvianolic acid B, also reduces fibrosis. One trial found that Chinese salvia combined with the anti-HBV drug lamivudine was more effective than either agent alone. A modern Chinese formula, Fuzheng Huayu, in several clinical trials, reversed fibrosis and inflammation in HCV. Ingredients include Chinese salvia, gynostemma (Gynostemma pentaphyllum), a fermented mycelium powder, and other herbs. Milk thistle has also been studied in HBV and may reduce mortality. As in HCV, glycyrrhizin and SNMC injections can be helpful in HBV. Finally, seeds of ginkgo (Ginkgo biloba) have been used in a Chinese open trial to prevent cirrhosis in HBV, but results, published only in Chinese, were unavailable to the authors.

-Mariann Garner-Wizard

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