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FILE: · Milk Thistle (*Silybum marianum*)
· Hepatoprotection
· Liver Therapy

DATE: January 15, 2000

HC 062391

RE: Review of Milk Thistle Extract for Liver Therapy

Flora, K., M. Hahn, H. Rosen and K. Benner. Milk thistle (*Silybum marianum*) for the therapy of liver disease. *The American Journal of Gastroenterology*, 1998, Vol. 93 (2), pp. 139-143.

Milk thistle (*Silybum marianum*), has been used for almost 2,000 years as a natural remedy for diseases of the liver and biliary tract. *Silybum marianum* is a member of the aster family, which includes daisies and thistles. The active extract of milk thistle is silymarin, a mixture of flavonolignans (silydianin, silychristine and silybin [sic]). Extracted from the fruits, commonly referred to as "seeds," a standard extract contains 70% silymarin. (The standardization level was formerly 70% in the leading German product Legalon® [Madaus, Cologne, Germany]. Legalon® is now standardized to 80% silymarin.)

The authors claim that most clinical trials that purport to assess silymarin efficacy are difficult to interpret because of flawed study designs. However, a few show significant effects of milk thistle on liver function. For example, double-blind studies on humans with acute viral hepatitis generally suggest that therapy with silymarin decreases complications, hastens recovery and shortens hospital stays. Several studies investigate silymarin therapy for exposure to natural and industrial toxins and show it to be effective in treating acute poisoning from *Amanita phalloides* mushrooms in animals and humans, and in reducing liver damage induced by exposure to halogenated hydrocarbons or solvents. On the other hand, a study of 14 people exposed to organophosphates (malathion) and treated for one month with silymarin showed no improvement in liver function tests when compared to 10 matched controls.

Although published trials of silymarin for drug-induced hepatitis have been small and therefore not reliable, the reported results are positive. In one study, 60 patients receiving treatment with psychotropic medications, some of whom stopped receiving medications during the study, received either 800 milligrams of silymarin a day or a placebo. Those who received silymarin experienced improved liver function tests, whether or not they stopped taking the psychotropic medications. Studies have also found silymarin can improve liver function tests in those with alcoholic liver disease. This is the primary clinical use of the extract in Germany.

The authors conclude that silymarin may be effective in improving the clinical courses of both acute and chronic viral, drug- and toxin-induced and alcoholic hepatitis. However, they caution that clinical trials conducted so far should be interpreted with care, because of flawed study designs. Still, because of its long history of use for the treatment of liver conditions and its safety record, the authors call for well-designed, double-blind, placebo-controlled studies using the herbal extract of the fruits. —*Densie Webb, Ph.D.*

[Note: The authors frequently refer to milk thistle extract as “silymarin” which, as noted above, is actually a term referring to three flavonolignans. However, the term “silymarin” has become a synonym for the entire milk thistle extract in various phytomedicinal articles. “Silibinin” is the most common and correct name for the isomer, not “silibin,” as the authors state.]

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