Milk Thistle (*Silybum marianum)*

History

- A purple flower with prickly leaves whose name comes from the white veins on its leaves which exude a milky sap when broken.
- Extracts of the plant's black seeds have been used for centuries as a therapy for jaundice.
- Widely used in Europe since the 1960's.

Most studied uses

Cirrhosis, alcoholic hepatitis.

Other common uses

General liver protectant, mushroom poisoning, treatment of biliary disease, prostate cancer.

Summary of the evidence

- Possibly effective for alcoholic hepatitis and some forms of cirrhosis, although clinical studies are mixed and outcomes reported are of uncertain clinical significance.
- Well tolerated and safe, so a trial is generally reasonable, although lack of better efficacy data prevents a stronger recommendation for its use.
- Use has not been studied in patients with hepatitis C, the most common form of chronic liver disease in the United States.

Pharmacology

- The extract contains a mix of flavonoligans termed silymarin (pronounced "silly-MAR-in").
- Silybin may be the most biologically active component.
- The extract is rapidly absorbed, but overall bioavailability is only 30-40%.
- Poorly soluble in water, so teas are likely to be less effective.

Mechanism of action

- Multiple actions have been proposed and supported by some in vitro including: antioxidation, increased protein synthesis, and membrane stabilization.

Clinical studies

- Pares (1998) tested milk thistle in 200 patients with cirrhosis due to alcohol for 2 years and found no significant effect on patients' clinical course.
- Ferenci (1989) tested milk thistle for two years in 105 pts with cirrhosis due to various causes and found a trend towards less mortality in patients who received milk thistle, especially in patients with milder disease.
- Salmi (1982) tested 4 weeks of milk thistle in soldiers with elevated LFT's presumably due to alcohol, although the cause was not well characterized. LFT's and inflammation on liver biopsy improved more in patients given milk thistle.

Adverse effects

- No severe adverse effects have been reported.
- Some patients report loose stools.
- Arthralgias, headache, and urticaria are rare.

Contraindications/cautions

- No significant contraindications.

Important drug/herb interactions

- Conflicting information on whether milk thistle may have an effect on cytochrome P450.
- No reports of herb-drug interactions in humans.

Formulation and dosage

- Standardized extracts contain 70-80% of the flavonoligan mixture, silymarin.
- The most studied dose is 140 mg tid.
- Optimal duration of therapy is unknown.

Key Milk Thistle References

1. Pares A, at al. Effects of silymarin in alcoholic patients with cirrhosis of the liver: results of a controlled, double-blind, randomized and multicenter trial. J Hepatol. 1998 Apr;28(4):615-21.

2. Ferenci P, et al. Randomized controlled trial of silymarin treatment in patients with cirrhosis of the liver. J Hepatol. 1989 Jul;9(1):105-13.
3. Salmi HA, et al. Effect of silymarin on chemical, functional, and morphological alterations of the liver. A double-blind controlled study. Scand J Gastroenterol. 1982 Jun;17(4):517-21.

For Additional Information

1. Natural Medicines Comprehensive Database. Available through UW Healthlinks.
2. About Herbs. http://www.fammed.washington.edu/predoctoral/CAM/sites.html.
3. Herbmed.org for more general background.
4. For information about the quality of specific brands, check Consumerlabs.com.