



Mills and Bone Academy

Educational Article

Hawthorn: The Nurse for the Older Heart– Kerry Bone

The famous German herbalist Rudolf Weiss once described hawthorn (*Crataegus laevigata*) as the nurse for the geriatric heart. Certainly there is a long tradition of use for originally the berry of this plant, with the preference now for the spring leaves (sometimes with flowers), to help support the failing heart. Several clinical trials have been published recently, so an update of the research on this important heart herb is certainly due.

Let me begin by describing an overview of the evidence to date for hawthorn from the prestigious Cochrane Collaboration. The Cochrane Collaboration was founded in 1993 and is a group of over 15,000 volunteer academics in more than 90 countries who review the effects of various health treatments in an objective and systematic way. It is entirely independent of drug company funding and evaluates the overall balance of the evidence in supporting a

particular treatment. A positive review from the Cochrane Collaboration represents a very high level of medical evidence.

A 2008 Cochrane review evaluated the information reported in gold-standard double blind clinical trials comparing hawthorn leaf and flower extract against placebo in patients with chronic heart failure.ⁱ With chronic heart failure, the heart fails in varying degrees to do its work pumping the blood around the body. So it is not the same as a heart attack, but may result as a chronic condition following a heart attack or some other condition that damages the heart muscle and thereby its ability to pump. Chronic hypertension is another cause of heart failure. The severity of heart failure is rated according to the criteria set by the New York Heart Association (NYHA), with class I being the least severe and class IV the most.

Fourteen clinical trials were found to be of sufficiently high quality to be included in the evidence review.ⁱ In most of these studies the hawthorn extract was used in conjunction with conventional treatments, including cardiac drugs. Pooling of the results of all 14 trials using a technique known as meta-analysis found that the average maximum cardiac work capacity was significantly higher in the patients receiving hawthorn compared to placebo. Also a measure of cardiac oxygen need (average blood pressure times heart rate) was significantly lower. These findings clearly indicate that the hawthorn treatment made the heart muscle tissue work more efficiently. The capacity of patients to tolerate exercise was increased and symptoms such as shortness of breath and fatigue were significantly improved. Reported side effects were mild and infrequent and there was no suggestion of any adverse interaction with conventional drugs. The authors of the review gave hawthorn a glowing commendation by concluding that the results suggest that there is significant benefit in both symptom control and physiological outcomes from hawthorn extract as an additional treatment in chronic heart failure.

This evidence for the value of hawthorn in heart failure is indeed impressive, but it is also important to highlight what it does not do.

While hawthorn is good for the heart muscle, it will not necessarily protect against a heart attack, which is of course more a problem with the supply of blood to the heart.

Herbalists have never maintained that hawthorn will prevent heart attacks, although it is certainly worth exploring this possibility using science.

This is exactly what was done in the large SPICE (Survival and Prognosis Investigation of Crataegus Extract) study and the results have recently been published.ⁱⁱ The study chose patients with congestive heart failure as this is a leading cause of death and, from the Cochrane report above, hawthorn is known to improve this condition. In a 2-year clinical trial, 2681 patients with NYHA class II or III chronic heart failure were given either hawthorn (900 mg/day of a dry leaf and flower extract made from around 5 g of starting herb) or a placebo. All of their conventional medications were continued. The trial was designed to assess whether the regular use of hawthorn by cardiac patients could delay or reduce their likelihood of a “cardiac event”. A cardiac event was defined in the study as cardiac death (due either to sudden cardiac arrest, death from progressive heart failure or a fatal heart attack), a non-fatal heart attack or hospitalisation due to progressive heart failure.

While the study did show some encouraging findings, it was probably not large or long enough to show a definitive benefit from hawthorn. The rate of heart attacks (fatal and non-fatal) was about the same in the two groups (hawthorn or placebo). But there was a key difference in sudden cardiac deaths (20 fewer in the hawthorn group) that failed to reach statistical significance, except in the subgroup of patients with milder heart failure. This lower rate of sudden cardiac arrest in the hawthorn group supports a possible beneficial effect of hawthorn in reducing the risk of dangerous arrhythmias.

One resounding conclusion from the SPICE trial was the excellent safety and low side

effect profile of the hawthorn extract. This was despite the fact that the patients were on a wide variety of cardiac drugs including β -blockers, ACE inhibitors, diuretics and digoxin.

So hawthorn is indeed a proven safe and effective “hedge” against heart problems, especially those related to chronic heart failure. Once again we find a situation where science has backed up the opinion of the wise old herbalist: in this case hawthorn truly has been shown to be the nurse of the failing geriatric heart.

References

- i Pittler MH, Guo R, Ernst E. Hawthorn extract for treating chronic heart failure. *Cochrane Database Syst Rev* 2008; (1): CD005312
- ii Holubarsch CJ, Colucci WS, Meinertz T et al. The efficacy and safety of Crataegus extract

WS 1442 in patients with heart failure: the SPICE trial *Eur J Heart Fail* 2008; **10**(12): 1255-1263