Cralonin® is a homeopathic complex preparation with two plants and one mineral ingredient. *Crataegus* is contained in a mother tincture, *Spigelia anthelmia* at a D2 or 2X potency and *Kalium carbonicum*, a mineral, at a D3 or 3X potency. Of these ingredients, *Crataegus* has been the most studied for its effects on the cardiovascular system. The *Crataegus* in this case is made from the fresh, ripe fruit of *Crataegus laevigata* and *Crataegus monogyna* Jacq. emend. Lindm.

Hawthorn has been extensively used as a cardiac tonic throughout history. It is thought that most of its therapeutic properties come from the flavonoids and procyanidins. Both of these have different actions. The flavonoids act as powerful antioxidants, also in the respiratory chain where most of the free radicals are formed. In this respect, the action is similar to that of Co-enzyme Q10. Although the fruit of *Crataegus* has less flavonoids than the flower and stems, only the experiments done with extracts of the fruit show significant results.

The cardiovascular effects are believed to be the result of positive inotropic (contractile) activity by improving left ventricular function and ejection fraction, the ability to increase the integrity of the blood vessel wall, to improve coronary blood flow and to increase oxygen utilization.

*Crataegus* has an effect on the vascular tone, and has been shown in a randomized double-blind study to be effective in treating mild essential hypertension. An important incidental finding in this study was that the group taking *Crataegus* had a notable trend towards the reduction of anxiety. Another study has shown this effect to be mediated by the procyanidins, possibly via an endothelium dependent nitric oxide-mediated relaxation and an increase in the cyclic GMP (guanine monophosphatase). These effects were not produced by the flavonoids.

*Crataegus* also has an effect on lipid metabolism. Not only has it been shown to have hypolipidemic activity in animals, but also to inhibit LDL oxidation, the latter being a major patho-physiological factor in the development of arteriosclerosis. This vasodilatory and lipid protective effect makes it of course extremely attractive for use in the metabolic syndrome.

Other effects on the heart, which have been shown with *Crataegus*, include a protective effect against reperfusion arrhythmias after global ischemia. This could allow it to play a role in open heart surgery, where heart-lung machines are used and where these arrhythmias pose common problems. One could also see a role in the treatment in cases of hypothermia, where the same problems occur.

*Crataegus* probably also acts as a general cell stimulant according to feeding experiments done by Klatt at the Hamburg Zoological Institute, where changing the diet of a species of butterflies to hawthorn saved the breed from extinction. This experiment was repeated in another laboratory on the fruit fly. An interesting further property of *Crataegus* came to light when it was recently shown to have antiviral and antioxidant properties against Herpes Simplex Virus I (HSV-1).

Cralonin contains *Crataegus* in a mother tincture (undiluted) and enables extrapolation that it will have similar effects as these mentioned above. The other two ingredients in Cralonin have not been as well researched yet, but are well known from the homeopathic Materia Medica.
**SPIGELIA ANTHELMIA** (Pink root) contains a volatile alkaloid, spigelein, which is thought to be the active ingredient. In homeopathy, it is used for stabbing chest pain radiating to the left arm, also for pain in the region of the apex of the heart.

**KALIUM CARBONICUM** (Potassium carbonate) is used based on empirical homeopathic experiences. It acts primarily on the mucous membranes and the heart. It can be used for arrhythmias, valvular defects with myocardial weakness, and stabbing chest pain.

In view of the above, the application possibilities of Cralonin can be summarized in the following manner:

**FOR MYOCARDIAL WEAKNESS:** Cardiac failure (Class I-II), Sportsman’s heart, Myocarditis, Cardiomyopathy, Senile heart.

**ANGINA PECTORIS,** as baseline therapy with conventional therapy for acute attacks, or as massive dose therapy: 10 drops every 5 min (if no relief after three doses, conventional vasodilators should be taken).

**ARRHYTHMIAS** of various origins including reperfusion arrhythmias.

**Note:** Can be used adjuvantly to Digoxin as a study showed no interaction between Crataegus and Digoxin.

**HYPERTENSION:** Essential or as part of the metabolic syndrome and sympathetic outflow hypertension (has an anxiolytic effect).

**HYPERLIPIDEMIA AND ARTERIOSCLEROSIS**

**Dosage:**

**Massive initial dose therapy:** 10 drops every 15 min for 2 hours (angina: 10 drops every 5 min for 3 doses).

**In general:** 10 drops 3x/day.

**INJECTION:**

**Acute:** 1-2 ampules per day.

**In general:** 1-3 ampules per week.

**NOTE:**

The effect of Cralonin reaches its optimum for chronic conditions only after long-term use. The preparation should thus be used as a basic therapy over months, while suitable preparations for regulation, such as detoxification products, catalysts and neuroendocrine support are applied.

References available upon request.