

Horse Chestnut (*Aesculus hippocastanum*)

History

- A large tree which grows especially well in the northeast United States. Its large white flowers yield a prickly fruit with a brown nut from which the medicinal extract is made.
- Horse chestnut seed extract is the most widely prescribed medication in Germany for venous insufficiency and edema.
- Horse chestnut is not edible and should not be confused with the edible sweet chestnut.

Most studied use

Chronic venous insufficiency.

Other common uses

Arthritis, neuralgia, hemorrhoids, reduction of edema caused by trauma or surgery.

Summary of the evidence

- Horse chestnut seed extract appears to be effective in reducing the symptoms of chronic venous insufficiency (swelling, leg pain, and pruritus).
- Horse chestnut is well-tolerated with no known adverse effects or drug interactions.

Pharmacology

- The active ingredient is escin, a complex mix of over 30 triterpine saponin glycosides.
- Saponin glycosides are poorly absorbed. The bioavailability of escin is < 1%.
- Extracts are standardized to 16-20% triterpine glycosides which is reported as escin.
- Other constituents include flavenoids, sterols, tannins and fatty acids.

Mechanism of action

- Horse chestnut appears to decrease capillary permeability and increase venous flow.
- The effect on capillary permeability may be mediated by stabilization of lysosomal membranes and a decrease in the release of elastase and hyaluronidase.
- Venous tone may be improved by enhancing the constricting effect of noradrenaline, apparently without affecting arterial vessels.

Clinical studies

- A Cochrane review of chronic venous insufficiency done in 2002 found 14 trials which met inclusion criteria. (Pittler) Compared to placebo, horse chestnut significantly reduced symptoms of leg pain, edema and pruritus. The lack of a common outcome measure and a wide variety of measurement instruments used limits the conclusiveness of these data.
- Using reduction in leg volume as the outcome measure, 4 RCT's showed a significant reduction compared with placebo after 2 weeks of treatment. (Pittler)
- The study which was found to have the highest methodological quality compared horse chestnut to compression stockings and found them equally effective in decreasing leg volume after 12 weeks of therapy. (Diehm)

Adverse effects

- Side effects are mild and infrequent and similar to placebo.
- There have been isolated cases of contact allergic reactions to topical horse chestnut gel.

Contraindications/cautions

- Unprocessed seeds are poisonous and can cause severe GI and neurotoxic reactions.

Important drug/herb interactions

- No interactions have been reported.

Formulation and dosage

- The usual recommended dose is 300 mg bid standardized to 16-20% escin (triterpine glycosides).
- The standardized commercial preparation tested in European trials is marketed in the US as Venostat (Pharmaton/Boehringer Ingelheim).

References

1. Pittler MH, et al. Horse chestnut seed extract for chronic venous insufficiency (Cochrane Review). In: The Cochrane Library, Issue 3, 2002. Oxford:Update Software.
2. Diehm C, et al. Comparison of leg compression stocking and oral horse chestnut seed extract therapy in patients with chronic venous insufficiency. *Lancet* 1996;347:292-294.