

reduction of monocyte adhesion to endothelium is partly mediated through specific modulation of ECM composition and properties.⁷⁴

An herbal combination called Etana that is composed of five herbal extracts including *Panax quinquefolius* (Ginseng), *Eurycoma longifolia* (Tongkat Ali), *Epimedium grandiflorum* (Horny goat weed), *Centella asiatica* (Gotu Kola) and flower pollen extracts. Most of the above-mentioned extracts have a long historical and traditional use for erectile dysfunction (ED). On the basis of the mechanism of action of each of the above, a combination is introduced to overcome several physiological or induced factors of ED.

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This study was conducted to show an enhancement of erectile function in male rats. The animals were observed for 3 hours after each administration for penile erection, genital grooming, copulation mounting, and the penile erection index (PEI) was calculated. The maximum response was observed at the concentration of 7.5 mg kg⁻¹ of Etana. At a 7.5 mg kg⁻¹ single dose, the percentage of responding rats was 53+/-7 with a PEI of 337+/-72 compared with 17+/-6 with a PEI of 30+/-10 for control animals. This PEI was significantly (P<0.001) higher than each single component and than the sum of any two herbal components of Etana. When compared with sildenafil citrate, Etana induced more pronounced PEI than 0.36 mg kg⁻¹, but similar to 0.71 mg kg⁻¹ of sildenafil. Furthermore, full acute and sub-acute toxicity studies showed no toxic effects of Etana. In conclusion, this study describes a new and safe combination of herbal components that enhance erectile function in male rats. Clinical studies are warranted for evaluating Etana's significance in ED.⁶²

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Studies were also done to investigate antipruritic and anti-inflammatory effect of *Centella asiatica* extract in rats and anti-allergic in vitro using sheep (*Capra hircus*) serum method and compound 48/80 induced mast cell degranulation method, compared with standard drug ketotifen fumarate. In rats, extract of *Centella asiatica* administered orally was examined for anti-pruritic study and chlorpheniramine maleate was used as standard drug while carageenan paw induced inflammatory method was used for the anti-inflammatory study. The results show that the extracts of *Centella asiatica* exhibited antiallergic, anti-pruritic and anti-inflammatory activities.⁶⁸

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Ethnoveterinary usage

The whole Gotu kola plant is used to treat jaundice, contagious abortion, foot and mouth disease, colic, and swelling of the respiratory tract in ruminants.⁴

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Safety profile

Orally, gotu kola is usually well-tolerated when used in typical doses. However, in some patients it can cause gastrointestinal upset and nausea.⁸⁰ Theoretically, gotu kola might also cause drowsiness. There are at least three cases of hepatotoxicity associated with gotu kola reported.⁸¹ I do not know if this because of Gotu kola or contamination; I have used Gotu kola extensively in thousands of patients, and never seen this reaction. In a clinical trial where liver function was monitored, no changes in hepatic function were observed in patients taking gotu kola (120 mg/day for 6 months).⁸² High doses of Gotu kola may cause skin irritation,⁷⁹ with external use, in addition to headache, stomach upset, nausea, dizziness, and drowsiness.

Dosage

Dried leaves: 0.6 g
 Extract: 60 mg/day
 Powdered herb (capsules): 1,000-4,000 three times per day

Ayurvedic properties

Guna: Laghu (light)
 Rasa: Tikta (bitter), kashaya (astringent)
 Veerya: Shita (cold)
 Vipaka: Katu (pungent)
 Dosha: Balances kapha and pitta

Dr.Sodhi's experience

I have this Centella asiatica with great success in cases of venous insufficiency, scleroderma, and lupus. In one instance, a thirty year old female patient came to my clinic with a diagnosis of systemic lupus erythematosus. Her skin has fibrosed all over her body. She was prescribed Panch karma detoxification treatment, Anti-inflammatory Co-curcuminTM (one teaspoon three times per day), Boswellia PlusTM (two tablets three times per day), Centella asiatica preparation Bacopa PlusTM (one capsule three times per day), and AshwgandhaTM (one capsule three times per day). She was also given TrifalTM (one capsule three times per day) for digestive help, and Livit-2TM (one tablet three times per day) for liver support.

Further reading

Nadkarni AK 1976 Indian materia medica. Popular Prakashan PVT Ltd, Bombay

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