Siberian Ginseng

Acanthopanacis radicis (fa. Araliaceae – ginseng family)
Botanical Name: Eleutherococcus senticosus Maxim
Botanical Synonyms: Acanthopanax sentocosus (Rupr. & Maxim.) Harms, Hedera senticosus (Rupr. & Maxim., Acanthopanax eleutherococcus (Makino).

Part used:

The root-bark

Summary of uses

Adaptogen
Antiinflammatory
antipruritic
Anti-radiation
Connective tissue restorative
Detoxicant
Draining diuretic
Immuno-protective
Immuno-regulation
Musculoskeletal restorative

Names Used

Five Additions Root Bark, Siberian Ginseng, eleuthero, eleuthero ginseng, ussurian throny pepperbush, wu jia pi, wu jia, gokahi; Ukogi, Kuko (Jap)

General Description

Deciduous spiny shrub from East and North China, growing on depleted slopes and in shrub thickets; in early summer small umbels of greenish white axillary/terminal flowers appear. The herb is stripped from the root collected in summer and autumn, and is dried in the sun. The bark comes in striped of varying lengths, coiled in tubular form. Its exterior surface is finely wrinkled, but generally smooth in texture and pierced with long lenticels, and is grayish brown in color; the interior surface is greyish white. This bark, which gives off a faint smell, is brittle and leaves off a jagged edge when snapped. Kun-Ying Yen (1992)

Known active constituents

Lignans (sesamine, eleutheroside D [di-beta-D-glycoside of syringaresinol]), Polysaccharides

(eleutherane A-G & eleutheroside C [ethyl-alpha-D-galactoside]), Triterpene saponins (eleutheroside I, K, L, and M), Steroid glycosides (eleutheroside A [glycoside of daucosterol]), Hydroxycoumarins (isofraxidin), Phenylacrylic acid derivatives (eleutheroside B [glycoside of syringin]), Minerals (Ca, P, K, Mg, Na, Al, Ba, Fe, Sr, B, Cu, Zn, Mn, and Cr) (You-Ping Zhu, 1988). From the root bark of A. gracilistylus, sesamin, B-sitesterol, syringing, B-sitosterolglucoside, eleutheroside B1, laurenoic acid 16-a-hydroxy-kauran-18-oic acid and stearic acid have been identified. Song, XH et al. (1983) and Xiang, R.D. (1983)

History and traditional use

Siberian Ginseng has been used in China for over 2000 years to help balance vital energy. It was Russian researchers who catapulted the plant into fame in the early 1960's. The common name has been quite controversial. In a Chinese context, 'seng' is a term used by root gatherers for medicinal plants with fleshy root stocks used as tonics. In China, there is only one 'ginseng'. Acanthopanacis is not a 'seng'-producing plant under the Chinese definition, and it was not known as Siberian ginseng until it was first imported into the US back in the early 1970s. Traditionally the herb was considered good for vital energy (qi), used for sleeplessness with many dreams, lower back or kidney pain, deficinecy of yang in the kidney and spleen, lack of appetite and to enhance overal resistance to disease or adverse physical influences or stress. Foster, S., Chongxi, Y. (1992

Known pharmacology

The butalonic extract of the root bark of A. gracilistylus showed antiinflammatory effect in the paw edema on animals, and analgesic activity. It was also found to be able to increase the immunologic functions (Su,Z.W., Qiao, C.Z. (1989)

The pharmacokinetics of eleutheroside B show that it accumulates in the pituitary, adrenal glands, pancreatic nuclei and spleen (Jaremenko, K.V. 1981)

In an alarming situation, the adrenal glands release corticosteroids and adrenaline which prepare the organism for the fight or flight reaction. When these hormones are depleted, the organism reaches an exhaustive phase. Eleutherococcus delays the exhaustive phase and allows a more economical and efficient release of these hormones (Brunner et al. 1990; Fulder, S. 1980)

Eleutherococcus has immunoprotective effects against breast (mammary gland) carcinoma, stomach carcinoma, oral cavity carcinoma, skin melanoma and ovarian carcinoma. It was found to have a pronounced effect on T lymphocytes, predominantly of the helper/inducer type, but also on cytotoxic and natural killer cells. (Bohn, B., et al. 1987; Kupin, V. 1985)

Caution should be exercised when used with other medications since Eleutherococcus

inhibits the drug metabolising enzymes and may prevent the biotransformation of other medications to less toxic compounds (Medon, P.J. et al., 1984; McRae, S. 1996).
For patients going through chemotherapy or radiotherapy, Eleutherococcus would be very useful. In Cancer therapy, the immune defences are weakened and Eleutherococcus offers a better tolerance to such treatments.
It is also possible that it may offer prophylaxis against the development of cancer.

The glycans, eleutherans A, B, C, D, E, F, and G, have hypoglycemic effects, therefore, Eleutherococcus could be used in diabetic formulations.
Eleutherans A, B, C, D, E, F, and G, reduced plasma sugar levels in experimental rats (Hikino, H. et al. 1986).
Extract of Eleutherococcus had demonstrable affinity for progestin, mineralocorticoid, glucocorticoid and oestrogen receptors (Pearce, P.T. et al. 1982).

Effect of Ciwujia (Radix Acanthopanacis senticosus) preparation on exercise performance under constant endurance load for elderly

Wu Y, Wang X, Li M, Compbell TC.

The effect of Ciwujia (Radix Acanthopanacis senticosus) preparation on human exercise performance was investigated by using 13 healthy volunteers aged 50-57. Under constant endurance load with 450 kg.m/min (75 W), the respiratory quotient after taking Ciwujia preparation was reduced to 0.88 from 0.96, which implied that the utilization of lipid increased with 27.2% as energy fuel during exercise. Meanwhile, the heart rate was reduced with 8.7%, and O2 uptake per heart beat increased with 16.18%. All results indicated that the Ciwujia preparation could increase O2 uptake, spare the glycogen in muscle and improve the exercise endurance and work performance in human subjects.
Wei Sheng Yan Jiu 1998 Nov 30;27(6):421-4

Clinical and experimental study on treatment of acute cerebral infarction with Acanthopanax Injection

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OBJECTIVE: To evaluate the effect of Radix Acanthopanacis Senticosi in treating acute cerebral infarction and its mechanism. METHODS: Clinical study using single-blind, control trial, in which 60-80 ml of Acanthopanax Injection (AI) added to 500 ml of 0.9% normal saline was given by intravenous drip once a day for 14 days in the AI group(34 patients), while 500 ml of dextra-40 was given by the

same way in the control group(26 patients). In experimental study, rabbit model of acute incomplete cerebral ischemia was made by ligation of bilateral common carotid artery. 10 ml of AI were given once daily intravenously for 7 days to the AI group and 10 ml of normal saline was given to the control group in the same way. Clinical effects (in clinical study) and effect of AI on cerebral oxygen free radicals (OFR), superoxide dismutase (SOD), and serum concentration of ACTH and cortisone were observed (in experimental study). RESULTS: Clinical study showed that the total effective rate of AI group (86%) was higher than that of the control group (50%) while nervous functional deficit score was lower in AI group (9.96 +/- 4.66) than that in the control group (13.56 +/- 1.84) significantly. Experimental study showed that the cerebral level of OFR decreased while SOD increased and serum concentration of ACTH and cortisone decreased after treatment in AI group. CONCLUSIONS: AI was effective in treating acute cerebral infarction, the mechanism is probably by ameliorating peroxidation in brain and improving hypothalamic-pituitary-adrenocortical axis function.

Publication Types:

* Clinical Trial
* Randomized Controlled Trial

Zhongguo Zhong Xi Yi Jie He Za Zhi 1998 Aug;18(8):472-4

Effect of eleutherosides on ventricular late potential with coronary heart disease and myocarditis

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The article studied the curative effect of eleutherosides in patients with coronary heart disease and myocarditis whose ventricular late potential (VLP) were positive by means of control study. All the 57 patients were randomly divided into two groups. The 31 patients were classified as therapeutic group including male 25 and female 6, the ages ranged from 18-65 years old (mean 51.8). The other 26 patients were defined as control group including male 21 and female 5, the ages ranged from 16-63 years old (mean 50.8). The therapeutic group was treated with injectio acanthopanacis senticosi 40 ml dissolved in 5% dextrose injection 300 ml by intravenous drop once daily. The control group was given insulin injection 12 u and potassium chloride injection 1 g dissolved in 10% dextrose injection 500 ml also by intravenous drop once daily. Both courses of treatment were 15 days. The rates of changing positive VLP into negative in two groups were 74.29% vs 34.6% (P less than 0.005). The results proved that eleutherosides is an effective drug to patients with positive VLP.

Zhong Xi Yi Jie He Za Zhi 1991 May;11(5):280-1, 261

Clinical Uses

Cancer Support
Chemo therapy support
Difficult urination
Edema
Immune deficiencies
Kidney pain
Lack of appetite
Lower back pain
Sleeplessness with dreams
to normalize any physiological, biochemical or immunological defects.
Weak sinews and bones

Toxicity

The LD50 for Cortex Acanthopanacis (Wu Jia Pi) given intraperitoneally is 13g/kg. This is over three times the antiinflammatory dosage. Toxicity of the saponins is quite low with the LD50 in mice of intraperitoneal injections being 4.75g/kg.

Contraindications

Use sparingly in empty heat due to yin deficiency

Interactions

None noted

Dosage

Decoction 8-14g

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