

## Herbs for the Treatment of Chronic Infections

### Astragalus

The root of *Astragalus membranaceus* has been used for many hundreds of years in traditional Chinese medicine (TCM). In this traditional system of medicine Astragalus is used for deficiency of 'qi', lack of strength, anorexia, postpartum fever, recovery from severe loss of blood, organ prolapse and uterine bleeding.

Oral doses of Astragalus have demonstrated immune stimulant, adaptogenic and tonic activities in experimental models, including increased phagocytosis and lymphocyte transformation, protection against immune suppression and viral infection, enhanced nonspecific immune function, increased antibody production, improved learning performance, memory and physical endurance and increased protein metabolism.

High oral doses of Astragalus decoction given to healthy subjects (15.6 g/day for 20 days) significantly increased serum IgM, IgE, and cAMP. Oral treatment in subjects susceptible to the common cold greatly increased levels of IgA and IgG in nasal secretions and enhanced the induction of interferon by peripheral white blood cells.

In an uncontrolled clinical trial, concentrated Astragalus preparation increased white blood cell count for leukopenia patients. The higher dose equivalent to 30 g of Astragalus per day produced a higher increase than the low dose (10 g/day).

In another uncontrolled study, a prophylactic effect for the common cold was observed in volunteers taking Astragalus, as evidenced by decreased incidence and shortened duration of infection. Astragalus has shown benefit in other uncontrolled trials including ischaemic heart disease, chronic viral hepatitis and chronic cervicitis (topical application).

### Echinacea

Echinacea, particularly the root, has a long history of use amongst both Native Americans and the Eclectic physicians. Native use included toothache, sore throat, fits, stomach cramps, septic conditions, rabies and as an antidote for venomous bites, including snakebite.<sup>1</sup>

The Eclectics prescribed Echinacea for a wide range of conditions, mainly infections and envenomations (venomous bites), chronic disorders and conditions suggestive of autoimmunity. The popular, modern use of *E. purpurea* originated from Europe where it was popularised by Dr Gerhard Madaus, who had imported seed from America which subsequently turned out to be *Echinacea purpurea* seed.

The scientific understanding of how Echinacea works is incomplete, but limited evidence suggests that Echinacea mainly stimulates phagocytosis, ie it acts mainly on the nonspecific immune response.

*Echinacea purpurea* root contains several groups of active constituents including alkylamides and caffeic acid esters. Cichoric acid, a caffeic acid ester, is present in significant quantities in *E. purpurea* root only. Pharmacological studies have indicated that a single constituent is not responsible for the activity and many constituents may contribute.

A clinical study tested the effect of an *Echinacea purpurea* root tincture on the phagocytic activity of human granulocytes following oral administration for a period of 5 days compared to placebo. While Echinacea was given, phagocytic activity remained high. When Echinacea was stopped, phagocytic activity remained well above normal for a few days, indicating a residual stimulating effect when Echinacea is stopped. There was no depleting effect on phagocytosis where activity dropped to less than normal.

### Siberian Ginseng

The adaptogenic activity of *Eleutherococcus senticosus* (Siberian Ginseng) root was demonstrated by Russian scientists in the 1950s onwards. In the 1970s and 80s it was used by Russian Olympic athletes and Russian cosmonauts.

The Pharmacopoeia of the People's Republic of China indicates Siberian Ginseng is used for general weakness, fatigue, anorexia, insomnia and dream-disturbed sleep. Other uses in TCM include to strengthen bones, reduce swelling, oedema, joint pain, muscular spasm and back pain, and difficult urination. It is particularly used to treat

the elderly. Use of Siberian Ginseng was not recorded in Russian folk medicine.

Chromatographic studies indicate that Siberian Ginseng sourced from Russia or Korea is chemically different to the Chinese material. A survey conducted in the early 1980s of products sold as 'Siberian ginseng' in the United States revealed that many products were not authentic, being derived from related species or adulterants.

The majority of experimental studies have demonstrated adaptogenic activity for Siberian Ginseng under a wide variety of stressful conditions. Siberian Ginseng modifies the physiological response to stress and has a sparing effect on the adrenal cortex which allows the organism to better withstand prolonged stress.

Studies on healthy individuals have demonstrated an increased capacity to withstand adverse environmental and working conditions. In uncontrolled trials Siberian Ginseng has improved mental and physical performance, particularly in athletes. Clinical trials indicate that Siberian Ginseng taken in the long-term reduces the incidence of acute infections and absenteeism.

Siberian Ginseng may exert its effects by improving the health of the patient rather than by any direct effect on the pathological process.

Results from other uncontrolled trials include: beneficial effect on antibiotic-induced diarrhoea during convalescence; improved cardiovascular function in atherosclerosis; enhanced nonspecific immunity, minimized side-effects from radiation, chemotherapy and surgery, improved healing and well-being in cancer patients; improved well-being and lung function in chronic bronchitis and pneumonia; improved blood pressure in hypotension.

## Synergistic Formulation

These herbs complement each other in a very potent formulation with the following actions:

- restored and enhanced immune response,
- enhanced recovery from infection,
- enhanced response to stress,
- enhanced physical and mental endurance,
- enhanced vitality.

## Indications

- To assist in recovery from chronic infections and illnesses, post-viral syndromes, surgery, trauma, antibiotic therapy, radiation and chemotherapy.
- Stress, chronic fatigue syndrome.

## Cautions and Contraindications

Discontinue use during any acute infection or fever, as the tonic and warming properties of Astragalus and Siberian Ginseng may aggravate the illness.

### REFERENCES

The following books were referred to in the compilation of this technical information:

Mills S, Bone K. *Principles and Practice of Phytotherapy: Modern Herbal Medicine*. Edinburgh: Churchill Livingstone, 2000; Wagner H (ed). *Immunomodulatory Agents from Plants*. Basel: Birkhauser Verlag, 1999.

<sup>1</sup> Vogel VJ. *American Indian Medicine*. Norman: University of Oklahoma Press, 1970.

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