Korean Ginseng and Erectile Dysfunction

A total of 60 patients with mild to moderate erectile dysfunction were recruited for a double-blind, randomized, placebo-controlled clinical trial conducted in Brazil.1 Patients received either 3 g per day of Korean red ginseng root (Panax ginseng) or a matched placebo for 12 weeks. The five-item version of the International Index of Erectile Function (IIEF-5) was used to assess patients at the beginning and end of the trial. The average patient's age was 52.6 years (ranging from 26 to 70 years) in the Korean ginseng group and 54.3 years (ranging from 34 to 67 years) in the placebo group. Other health problems included hypertension in nine patients (30.0%) in the Korean ginseng group and 13 patients (43.3%) in the placebo group; diabetes in four patients (13.3%) in the Korean ginseng group and six patients (20%) in the placebo group. Two patients (6.67%) had combined cardiovascular disease in the Korean ginseng group, compared to three patients (10%) in the placebo group.

By the end of the trial, the IIEF-5 was significantly higher in the group receiving Korean ginseng compared to baseline (p<0.0001). In contrast, there was no change for the placebo group. In the Korean ginseng group, 20 patients (66%) reported improved erection compared to none in the placebo group. Levels of serum testosterone, prolactin, and cholesterol were not significantly altered by the herbal treatment.

Commentary

There is now good evidence that Korean red ginseng is useful for impotence. In fact, this is the fourth controlled clinical trial demonstrating the efficacy of ginseng in the management of erectile dysfunction. All three previous studies were undertaken in Korea. The first study, published in 1995, compared the effect of red ginseng on impotence against a placebo and the drug trazodone.2 A total of 90 patients were closely followed, with 30 patients in each group. The overall therapeutic efficacy on erectile dysfunction as evaluated by patients was 60% for the ginseng group and 30% for the placebo- and trazodone-treated groups (p<0.05). In particular, ginseng significantly improved libido. The ginseng dose used was 1.8 g of extract per day.

The effect of Korean red ginseng on sexual dysfunction and serum lipid profile was investigated in 35 elderly men with psychogenic impotence in a controlled study. Treatment was 2.7 g or 1.8 g of ginseng root or placebo for two months. The overall therapeutic effect on erectile function was 67% for ginseng vs. 28% for placebo (p<0.05), and results tended to be better in the higher-dose ginseng group. HDL cholesterol was significantly elevated by ginseng (p<0.05), but there was no other effect on serum lipids.3

In the third study, published in 2002, a total of 45 patients with clinically diagnosed erectile dysfunction was enrolled in a double-blind, placebo-controlled, crossover trial (eight weeks on treatment, two weeks of washout, and eight weeks on treatment). The effects of Korean red ginseng root (900 mg, three times daily) and a placebo were compared. Mean IIEF scores were significantly higher in patients taking Korean red ginseng than in those who received the placebo (p <0.01). Scores on questions 3 (penetration) and 4 (maintenance) were also significantly higher in the ginseng group (p <0.01). In response to the global efficacy question, 60% of the patients answered that Korean red ginseng improved erection (p <0.01). Among other variables, penile tip rigidity using the RigiScan device showed significant improvement for ginseng against placebo.4 No changes in serum testosterone were observed.
The range of Korean red ginseng root doses prescribed in the studies varied from 1.8 to 3 g. Also, one trial used 1.8 g of an undefined concentrated extract. These trial data suggest that a dose of at least 5 mL per day of a 1:2 red ginseng extract (equivalent to 2.5 g of dried root) or its equivalent in tablet or capsule form is needed for clinical results in erectile dysfunction.


Echinacea and Autoimmune Disease

There is considerable controversy over the safety and value of Echinacea in autoimmune disease. Given the great variety of disorders that come under this classification and the associated complexity of immune imbalances, it seems unreasonable to suggest that there might be no circumstances in which the herb is safe and useful. On the other hand, Echinacea might not suit all patients with autoimmune disease. On this point, the few documented cases where it may have been associated with a patient’s deterioration have been taken as a proof that it is contraindicated in autoimmune diseases. However, this ignores the countless cases where Echinacea has been safely prescribed in this context.

There is growing evidence from individual cases and experimental models that autoimmune disease is often associated with a defective functioning of some aspect of the immune response, especially involving natural killer (NK) cells. NK cells are part of innate immunity, and hence this aspect of immunity can be deficient in autoimmune disease. In contrast, some aspects of T and B cell responses, which form the acquired immune response, are usually overactive in these disorders.

The NK cell deficiencies probably vary across the range of different autoimmune diseases, but might also vary for individual patients expressing a particular disorder. (This latter point might explain why a handful of patients with autoimmune disease do not respond well to Echinacea.) For example, patients with systemic lupus erythematosus are often deficient in NK cell function, and the role of NK cells in inhibiting autoimmunity in general has been well-established from experimental models. Natural killer cell dysfunction is also a distinguishing feature of systemic onset juvenile rheumatoid arthritis, and circulating NK cells are reduced in psoriasis and rheumatoid arthritis. A particular focus has been on NKT cells, which are a subset of T cells that share properties of NK cells and conventional T cells. NKT cells are potent producers of immunoregulatory cytokines that can control an overactive immune response. A survey of patients with different autoimmune diseases found around half had reduced numbers of NKT cells.

Given the above, the findings by Dr Sandra Miller that Echinacea purpurea root boosts NK cell numbers and function in experimental models are particularly relevant. Now, Dr Miller and colleague Danielle Delorme have examined the effects of Echinacea root consumption in non-obese diabetic (NOD) mice, which is a model of human type 1 diabetes. NKT cells are believed to be implicated in type 1 diabetes, and their functional and/or numerical deficiency is thought to be largely responsible for the development of this disease in NOD mice. When NOD mice were fed Echinacea for varying times, there was a substantial and significant increase in NK cell numbers. This was the only type of immune cell influenced by the Echinacea in these mice. The authors concluded the following:

The observations of the present study have, at least in the animal model of human type 1 diabetes, led to two conclusions. First, daily consumption of Echinacea by animals afflicted with this particular autoimmune disease leads to no negative repercussions, and indeed, may provide all the advantages, in vivo, that consuming this herb does for normal, unaffected mice (humans). Second, the study may provide evidence for a possible new approach to the treatment of type 1 diabetes. That is, immuno-stimulation only of those cells (NK/NKT) involved in modulating the disease. Echinacea is one such uniquely tailored, immuno-stimulant, whose effect is on NK cells.

Idiopathic autoimmune uveitis is usually treated by oral corticosteroids. It is an inflammation of part or all of the uvea, the middle (vascular) tunic of the eye, although it also commonly involves the sclera, the cornea, and the retina. On the basis of the known interaction of Echinacea alkylamides with cannabinoid CB1 receptors, which implies immune-modulating and anti-inflammatory activities, a group of Italian clinicians investigated the safety and efficacy of Echinacea purpurea in this autoimmune disease. Fifty-one patients with low-grade autoimmune uveitis were treated with conventional therapy, including oral prednisone. In addition, 32 of these patients were given Echinacea as an add-on therapy. At the last follow-up, which was nine months later, 87.5% of patients receiving Echinacea were in clinical remission, compared to 82.3% of the control group. However, steroid-off time was significantly higher in the Echinacea group (indicating that patients receiving Echinacea needed less prednisone to induce remission). The authors concluded that the oral intake of Echinacea appears safe and effective in the control of low-grade autoimmune uveitis. No patient showed any side effects or aggravation from the use of Echinacea for their autoimmune disease.

Commentary

Over the past few years, there have been some significant advances in our understanding of Echinacea and how it acts on the immune system. These two studies demonstrate that, from a rational perspective based on this new understanding, Echinacea is positively indicated in a number of autoimmune diseases and is without adverse effects. While more research is needed to understand the role of Echinacea across a wider