Are Auto-Immune Herbs Safe During Auto-Immune Disease?

By Kerry Bone, BSc (hons), Dipl. Phyto.

A persistent caution that appears in the herbal literature and teachings is the concern that "immune" herbs, plants regarded as having an immune-enhancing effect, might exacerbate autoimmune diseases. This concern, or even contraindication, is especially prevalent for the use of Echinacea in all its species and forms. Is there any solid evidence to support these warnings?

Echinacea

The German Commission E Monographs states that in principle, Echinacea should not be used in "progressive conditions" such as tuberculosis, leukemia, collagen disorders, multiple sclerosis, AIDS and other autoimmune disease. However, the key words here are "in principle." There are no clinical studies or case reports in the mainstream literature that credibly document any adverse effect resulting from Echinacea in any of these conditions. Other authoritative sources do not support these restrictions. In fact, their suggested use of Echinacea in infection prophylaxis implies long-term use.

However, there have been a few poorly described case reports of adverse reactions in this context. Echinacea (species and plant part usually not specified) has been attributed to cause erythema nodosum, leucopenia, aggravation of autoimmunity, acute hepatitis and hypereosinophilia. Importantly, the details provided are so scant it is difficult to interpret these reports, and even if valid, rare adverse reactions only constitute a minor caution, not a contraindication for use.

On the positive side, the impact of E. purpurea root extract (2 mg/day) consumption was investigated in non-obese diabetic (NOD) mice, a model of human type 1 diabetes. NKT (natural killer T) 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 observations of the present study have, at least in the animal model of human type 1 diabetes, led to 2 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, unafflicted 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, immunostimulant, whose effect is on NK cells."

Here the authors highlight an important consideration. The suggestion that Echinacea root is contraindicated in autoimmune disease assumes that any enhancement of any aspect of immune function is detrimental for these disorders. However, there is growing evidence that an inappropriate response to infectious micro-organisms, through phenomena such as molecular mimicry, may be a factor in the pathogenesis of autoimmune disorders. 11

If so, Echinacea root may be beneficial in these disorders because it might help to decrease the chronic presence of micro-organisms. There are many herbal clinicians (including myself) who routinely prescribe Echinacea root in autoimmune disease without apparent adverse effects in patients.

As some support for this approach, the use of Echinacea yielded positive results in a trial involving patients with idiopathic autoimmune uveitis. IAU, which is usually treated by oral corticosteroids, 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 CB2 receptors, which implies immune modulating and anti-inflammatory-activities, a group of Italian clinicians investigated the safety and efficacy of E. purpurea (plant part not specified) in this autoimmune disease. 12 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 assessment nine months later, 87.5 percent of patients receiving Echinacea were in clinical remission compared with 82.3 percent 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 appeared safe and effective in controlling low-grade autoimmune uveitis. No patient showed any side effects or aggravation from the use of Echinacea for their autoimmune disease.
Andrographis

Other "immune" herbs have also demonstrated positive effects when taken by patients with autoimmune disease. A 14-week randomized, double-blind, placebo-controlled clinical trial examined the impact of a 75 percent ethanolic extract of Andrographis (300 mg/day corresponding to 3 g of herb and containing 90 mg of andrographolides) in 60 patients with active rheumatoid arthritis.\(^{13}\) All trial participants were given the drug methotrexate and were allowed to take prednisone or chloroquine in stable doses if already prescribed.

Compared with the measures taken at baseline, there were significant improvements observed in the Andrographis group by week 14. However, when compared with the placebo group, these changes did not reach statistical significance.

Another randomized, double-blind trial conducted at five centers in Shanghai compared a standardized extract of Andrographis with the nonsteroidal anti-inflammatory drug mesalazine (4.5 g/day, in slow-release form) in patients with mildly to moderately active ulcerative colitis (confirmed by colonoscopy).\(^{14}\) Treatment with Andrographis extract demonstrated similar efficacy to the drug. Only 13 percent of patients in the Andrographis group versus 27 percent of patients in the mesalazine group had at least one adverse event, and most of these appeared to be related to the underlying disease.

Astragalus

Astragalus has also been the subject of two intriguing case reports from the U.S. A group of doctors described two separate cases (published three years apart) of remission of idiopathic membranous nephropathy (most probably autoimmune in origin) after therapy with Astragalus.

The first case described a 77-year-old woman with nephrotic syndrome secondary to IMN who was largely unresponsive to conventional treatments. After beginning Astragalus (15 g/day as part of the formulation Shen-Yan Siwei Pian), there was a marked decrease in proteinuria.\(^ {15}\) Nephrotic syndrome recurred after a temporary cessation of the formulation, with complete remission after its reintroduction. Remission persisted even after stopping the herbal treatment.

The second case was a 63-year-old man with nephrotic syndrome due to IMN. In addition to conventional treatments (which had not resolved his proteinuria), he took Astragalus (15 g/day herb equivalent) for around 12 months, after which he experienced complete remission of nephrotic syndrome.\(^ {16}\)
Cat’s Claw

Finally, cat’s claw was positive in a trial in rheumatoid arthritis patients. Forty patients undergoing conventional drug therapy for active rheumatoid arthritis were enrolled in a randomized, 52-week study. During the first phase (24 weeks), patients were treated with cat’s claw extract or placebo under double-blind conditions. In the second phase (28 weeks), all patients received the herbal extract.

Results for the first phase demonstrated a significant reduction in the number of painful joints for the cat’s claw group compared with placebo. Patients previously on placebo who then received cat’s claw in the second phase of the study also experienced a highly significant reduction in the number of painful and swollen joints. Only minor side effects were observed, and there was a similar distribution of adverse events in the active and placebo groups.

On the basis of the above evidence, immune herbs can play a beneficial role in patients with autoimmune disease and can be cautiously trialled if the circumstances are appropriate.

References

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