CLINICAL AND EXPERIMENTAL EVIDENCE OF PENTAHERBS FORMULATION AS A TREATMENT OPTION FOR CHILDHOOD ATOPIC DERMATITIS

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HERBAL MEDICINE FOR ATOPIC DERMATITIS

Atopic dermatitis (AD) is the commonest chronic cutaneous disease in children. There has been substantial interest in the general public of using herbal medicine as an adjunct therapy for this incurable disease [1,2]. In early 1990s, a decoction was found to be efficacious for AD in UK children [3,4]. Nonetheless, a randomised controlled trial failed to confirm its usefulness [5]. Recently, my group has formulated following Good Manufacturing Practice guidelines a twice-daily concoction containing five herbal extracts - Flos lonicerae (Jinyinhua), Herba menthae (Bohe), Cortex moutan (Danpi), Rhizoma atractylodis (Cangzhu) and Cortex phellodendri (Huangbai). This formulation was based on a widely used ancestral Chinese concoction. An open-label pilot study suggested this Pentaherbs to improve the severity of childhood AD [6]. We also showed this formulation to be free from corticosteroid (CS) or related compounds [7].

CLINICAL TRIALS OF PENTAHERBS FORMULATION

My group conducted a parallel-group, randomised, placebo-controlled clinical trial to evaluate the efficacy and tolerability of the Pentaherbs concoction in 85 children aged 5-21 years with moderate-to-severe AD [8]. They were randomised to 12-week treatment with either twice-daily Pentaherbs capsules or placebo. Over this study period, subjects’ AD severity improved to similar extent in both groups. On the other hand, quality of life as revealed by Children’s Dermatology Life Quality Index (CDLQI) in Pentaherbs-treated patients was significantly better than those who received placebo at the end of 12-week treatment and also 4 weeks later. Besides, patients on active treatment used significantly less topical CS. No serious adverse effect was observed. We recently evaluated the efficacy and tolerability of the same concoction in syrup form in a prospective self-controlled clinical trial [9]. Twenty-two preschool children aged 4-7 years with moderate-to-severe AD received daily treatment of 20 ml Pentaherbs syrup for a total of 12 weeks. We observed significant improvements in their objective SCORAD, pruritus and CDLQI scores 4 weeks after study, although there was no change in sleep score or topical CS usage. No biochemical evidence of adverse drug reaction was noted. Pentaherbs syrup was palatable and well tolerated by all participants.

IMMUNOMODULATORY EFFECTS OF PENTAHERBS ON ALLERGIC INFLAMMATION

Parallel to the above clinical trials, my group investigated the immunomodulatory effects of Pentaherbs formulation on phytohaemagglutinin (PHA)- and staphylococcal
enterotoxin B (SEB)-stimulated peripheral blood mononuclear cells (PBMC) [10]. Pentaherbs up to 1 mg/mL dose-dependently suppressed PBMC proliferation. Pentaherbs-treated PBMC had reduced supernatant concentrations of brain-derived neurotrophic factor (BDNF), interferon (IFN)-γ and tumour necrosis factor (TNF)-α in response to PHA, and BDNF and thymus and activation-regulated chemokine (TARC) following SEB stimulation. Pentaherbs also suppressed the transcription of BDNF, TARC, IFN-γ and TNF-α. Among 28 AD children, a 3-month open-label Pentaherbs treatment lowered the plasma concentrations of two emerging AD biomarkers BDNF and TARC [11,12].

CONCLUSIONS

The Pentaherbs concoction is efficacious in improving quality of life and reducing topical CS use in Chinese children with moderate-to-severe AD. This formulation was palatable and well tolerated in preschool and school-age children. Our findings from both in vitro and in vivo studies support that Pentaherbs possesses immunomodulatory properties that explain the clinical efficacy observed in treating AD patients.

KEYWORDS: Atopic dermatitis; herbal medicine; immunomodulation; Pentaherbs

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