

EVIDENCE-BASED COMMENTARY**CIPLUKAN (PHYSALIS ANGULATA LINN.) EXTRACT AS A NATURAL ADJUVANT REMEDIES FOR SCLERODERMA**

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Faculty of Medicine, Universitas Kristen Duta Wacana, Yogyakarta

Correspondence: lintangdionisia@gmail.com

Scleroderma or systemic sclerosis is a rare connective tissue autoimmune disorder.¹ Its prevalence in Indonesia is not well recorded but scleroderma is listed as the third most common disease in rheumatology outpatient clinic in Hasan Sadikin Hospital, Bandung, West Java, Indonesia.^{2,3} Scleroderma is characterized by skin fibrosis, small vessel vasculopathy, and immune system abnormality. The cutaneous lesion of scleroderma is presenting with excessive collagen type-1 production and deposition, as well as exaggerated inflammatory process. There is no specific diagnosis test is available, but in most cases, there are some laboratory findings which support the diagnosis of scleroderma, such as elevated erythrocyte sedimentation rate (ESR), B lymphocyte stimulator (BAFF), C-Reactive Protein (CRP), Soluble Cd40 Ligand (sCD40L), and Procollagen Type-1 N-Terminal Propeptide (P1NP).³⁻⁶

The treatment of this autoimmune disease remains a challenge for clinicians. The current treatment for scleroderma is expensive and some side effects as well as drug resistance are reported. Some new medicines are still under research, not accessible, and too expensive for most Indonesian communities. Hence, new therapeutic options are constantly sought.⁷

Ciplukan herb (*Physalis angulate Linn*) is a medicinal plant which grows in Indonesia. It has been

known for its efficacy and safety as long-term anti-inflammatory, anti-proliferative, and anti-angiogenesis agent.⁷ Dewi *et al* conducted a double-blind, randomized clinical trial using ciplukan herb extract as an adjuvant treatment for scleroderma. The clinical trial was performed in Jakarta and Bandung, Indonesia for 2 years. There are 59 scleroderma patients, age 15-60 years old, had stable treatment for at least 3 months, who randomly divided into treatment group (29 people) and control group (30 people). The treatment group received 250 mg ciplukan herb extract three times a day and the control group received 250 mg amylum three times a day for 12 weeks. A 35,9% skin thickness reduction was found in treatment group. It is greater than control group which only gained 6,3% reduction ($p < 0,001$). Skin thickness was rated using Modified Rodnan Skin Score (MRSS) and there was 6 points MRSS reduction in the first three months. P1NP level also diminished 17,8% in treatment group compare with 0,7% in control group ($p = 0,002$).⁷

Ciplukan herb extract shows synergic effect as anti-fibrotic in the skin of scleroderma patients through its efficacy as antioxidant, anti-inflammatory, anti-proliferative agent. Ciplukan herb contains phenolic compound such as flavonoid, tannin, phenylpropane, and other phenols which has immunomodulator activity. The

phenol derivatives can inhibit oxidative stress and reduce inflammation which take a major role in the pathogenesis of scleroderma. The antioxidant property of phenols protects lymphocytes from reactive oxygen molecule. Sitosterol contained ciplukan herbs also shows strong anti-inflammatory property.⁷

The research was the first clinical trial in the world which investigate the effect of ciplukan herb extract as the adjuvant treatment for scleroderma. There is not any correlation between MRSS and ESR, BAFF, CD40L serum level in both group despite their role as inflammatory markers. Further research is needed using other inflammatory markers to prove the anti-inflammation effect of ciplukan herbs.

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