



Chinese herbal medicine for Henoch–Schönlein purpura in children without renal damage: A systematic review of randomized controlled trials



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ABSTRACT

Background: Henoch–Schönlein Purpura (HSP) is the most common necrotizing vasculitis affecting children. Traditional Chinese herbal medicine (CHM) was widely used. We aim to explore the evidence of effectiveness and safety of CHM for HSP in children without renal damage.

Methods: Randomized controlled trials (RCTs) comparing CHM with conventional medications were searched from five databases. Eligible data were pooled using random-effects model using RevMan 5.2. Subgroup analysis for different co-interventions and sensitivity analysis for reducing heterogeneity were implemented. GRADE approach was adopted.

Results: We included 15 trials with 1112 HSP children (age 1–16 years old), disease duration one day to three months. The overall methodological quality of included trials is relatively low. Adjunctive oral CHM treatments reduced renal damage (6 trials, RR 0.47, 95%CI 0.31–0.72, $I^2 = 0\%$), and subsiding time (days) of purpura (5 trials, mean difference (MD) -3.60 , 95%CI -4.21 to -2.99 , $I^2 = 23\%$), joint pain (5 trials, MD -1.04 , 95%CI -1.33 to -0.74 , $I^2 = 1\%$) and abdomen pain (5 trials, MD -1.69 , 95%CI -2.51 to -0.86 , $I^2 = 74\%$). Subgroup and sensitivity analysis did not change the direction of results. No severe adverse events reported.

Conclusions: Orally taken adjunctive CHM treatments are effective for children suffering HSP in terms of reducing renal damage and subsiding time of purpura, and could possibly reduce subsiding pain of joint and abdomen. No reliable conclusion regarding safety is possible based on the safety data retrieved. Further rigorous trials are warranted.

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1. Introduction

Henoch–Schönlein purpura (HSP, also known as anaphylactoid purpura or allergic purpura) is a systemic vasculitis, characterized by deposition of immune complexes, and most commonly affects children.¹ The primary symptom is a rash that looks like many small raised bruises, many with painful joints and abdomen, sometimes signs of renal damage.² HSP can occur any time in life, but it is most common in children between 2 and 6 years of age.³ And previous study found that the incidence is about 10–20 per 100,000 children per year, and the highest is 70.3 per 100,000 between the ages of 4 years and 6 years.⁴

Renal involvement and its severity directly affect the prognosis of HSP.^{5,6} Clinical data from China showed that 50–88% HSP children would develop renal damage in the first month after diagnosis, and 89–95% within 3 months.^{7,8} Also data from other countries found that 18–81% HSP children manifested kidney related symptoms, such as hematuria and proteinuria.^{9,10}

HSP is usually self-limiting, and treatments for most patients remain primarily supportive. Symptom control and preventing HSP nephritis is the main purpose of treatments. Treatments focus on the maintenance of hydration, nutrition, and electrolyte balance. Conventional drugs include i) vitamin C, vitamin E, rutin (violaque-reitrin), carbazochrome (adrenosin) and so on, aiming to improve the permeability of capillaries, ii) general anti-allergy treatment, such as anti histamine H₁ receptor antagonist, H₂ receptor antagonist (cimetidine) and allergic media release retarding agent, iii) medications for anticoagulation, expanding blood vessel and promote blood circulation, such as dipyridamole, Urokinase, Heparin and Calcium antagonist, iv) Glucocorticoids, immunosuppressants and immunoglobulin G in sever conditions. In patients with abnormal kidney function, the treatment will refer to management of nephritis.

According to traditional Chinese medicine (TCM), HSP in children belongs to blood syndrome, caused mainly by wind, heat, toxin, stasis and deficiency. TCM physicians give treatments (usually orally taken herbal medicines) according to symptoms and signs.

By previous literature review, we identified a number of clinical studies on Chinese herbal medicine (CHM) for HSP in children. However, there is no systematic review to present evidence.

The objective of the present systematic review is to explore the effectiveness and safety of CHM for treatment of HSP in children without renal damage.

2. Methods

2.1. Eligibility criteria

Trials were included when they met the following criteria: i) randomized controlled trials (RCTs) without limits on blinding or publishing language, ii) children with specified diagnosis criteria of HSP, no limits on the gender or nation, and iii) interventional therapies include orally taken CHM or plus supportively conventional drugs including medications to improve the permeability of capillaries, anti allergy, anticoagulation, expanding blood vessel and improving microcirculation. Trials with patients with renal damage and those included adult patients (aged over 18 years old) were excluded. Trials using CHM extract injections or other TCM treatments were excluded. Orally taken CHM was defined as CHM in any kinds of orally taken forms, including decoctions, pills, powders, tablets and capsules, et al. that having all or main ingredients of herbs or extracts of herbs that belong to the TCM system.

2.2. Information sources

PubMed (1950–April, 2015), Cochrane Library (April, 2015), China National Knowledge Infrastructure, CNKI (1979–April, 2015), VIP Database for Chinese Technical Periodicals (1989–April, 2015), Wanfang Database on Academic Institutions in China (1990–April, 2015) were searched. Search strategies for different databases were designed according to their different searching characteristics (Supplement file1). We also screened references lists of retrieved articles.

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