

SYSTEMATIC REVIEW

Chinese herbal medicine for subacute thyroiditis: a systematic review of randomized controlled trials

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Abstract

OBJECTIVE: To evaluate the effectiveness and safety of Chinese herbal medicine (CHM) in the treatment of subacute thyroiditis.

METHODS: Randomized controlled trials found in PubMed, Cochrane Library, and three Chinese databases were selected. RevMan 5.2 software was used to analyze the data with relative risk or mean difference, expressed with 95% of confidence interval. The quality of trials was assessed and graded

the quality of evidence with GRADE profiler software.

RESULTS: Twenty one studies were included. CHM was superior to Western Medicine (include prednisone and NSAIDs) in abating fever, relieving thyroid pain, recovering blood sedimentation, improving thyroid function, and preventing hypothyroidism ($P < 0.05$), while no statistical differences were found in eliminating goiter and reducing relapse rate. CHM plus Western Medicine were superior to Western Medicine in abating fever, relieving thyroid pain, eliminating goiter, and reducing relapse rate, while no statistical differences ($P > 0.05$) were found in recovering blood sedimentation and improving thyroid function. The incidence of adverse reactions in treatment group was lower than that in control group (relative risk was 0.12 and 95% confidence interval was 0.03-0.51). The methodological quality of trials is generally poor with a high risk of bias.

CONCLUSION: CHM (particularly CHM combined with Western Medicine) used to treat subacute thyroiditis may improve clinical symptoms and signs, reduce relapse rate, and alleviate the side effects of hormones. Due to poor methodological quality of included trials, further more high-quality studies are warranted to confirm the effectiveness and safety of CHM.

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Key words: Drugs, Chinese herbal; Thyroiditis, subacute; Randomized controlled trial; Review, systematic

INTRODUCTION

Subacute thyroiditis, also called subacute granulomatous thyroiditis, (pseudo-) giant cell thyroiditis, or de Quervain's thyroiditis, is caused by viruses with main symptoms of fever (exceeding 38°C in most cases), goiter, and thyroid pain.¹ It is the most commonly seen disease with thyroid pain.² Its incidence, reportedly 4.9-12.1 cases in every 100 000 people, is increasing in recent years.^{3,4} The disease mainly affects people aged 30-50 years in a male: female ratio of 1: 3-7.^{1,4-6} Although subacute thyroiditis is a self-limited disease, patients have obvious local or systemic symptoms with an illness course lasting 6-12 months.² Several months or years after treatment, its relapse rate is about 20%, and 10%-15% of patients can suffer from permanent hypothyroidism.^{3,7}

Guideline for diagnosing and treating subacute thyroiditis is not yet internationally established. Early treatment aims to reduce inflammation and alleviate pain, and mild cases are treated with acetylsalicylic acid and non-steroidal anti-inflammatory drugs (NSAIDs). Moderate or severe cases are given glucocorticoid hormone orally.² Hormones can be used to rapidly alleviate symptoms but cannot prevent hypothyroidism.³ Because of its side effects, hormones are used sparingly.

In Traditional Chinese Medicine (TCM), subacute thyroiditis is mainly treated by dispelling wind, clearing away heat, resolving phlegm, and removing mass.⁸ Some clinical research has found that Chinese herbal medicine (CHM) alone or combined with Western Medicine can improve the effectiveness of subacute thyroiditis, lower its relapse rate and the incidence of hypothyroidism, and reduce the side effects of hormones.⁹ This study aims to summarize the randomized controlled trials (RCTs) on the treatment of subacute thyroiditis with CHM, evaluate their effectiveness and safety of as compared with Western Medicine or placebo, and provide evidence for clinical treatment.

METHODS

Literature retrieval

China National Knowledge Infrastructure Database (CNKI), China Science and Technology Journal Database (VIP) for Chinese Technical Periodicals, China Biological Medicine Database (CBM), PubMed, and Cochrane Library (2013, Issue 5) were searched up to June 2, 2013, regardless of language.

Searched key phrases include subacute thyroiditis, Traditional Chinese Medicine, Chinese herbal medicine, combination of CHM with Western Medicine, randomization, and therapy. Methods for retrieval are summarized according to the features of each database in Table 1.

Inclusion criteria

Types of trials: in RCTs on the treatment of subacute thyroiditis with CHM, patients randomly divided into groups were regarded as conforming to inclusion criteria.

Participations: the trials must explicitly report the diagnose of subacute thyroiditis, including symptoms, signs, biochemical examination, and imaging tests. They must also give the basic data including sex, age, and patient illness course.

Types of treatment: patients in the treatment group were treated with CHM regardless of its dosage form and medication. Patients in the control group were treated with no treatment, placebo, or Western Medicines, such as NSAIDs and hormones. Patients in the treatment group were treated with CHMs plus the same western drugs as in the control group.

Outcome evaluation: according to the guideline for diagnosing and treating subacute thyroiditis issued in China, treatment aims to reduce inflammation and alleviate pain. Therefore, the following primary outcome indexes were included in this review: (a) fever-abating time; (b) time for abatement of thyroid pain; (c) time for elimination of goiter; (d) incidence of hypothyroidism; and (e) relapse rate.

Table 1 Methods for retrieving literature from databases

Database	Methods
PubMed	"Thyroiditis, Subacute" (MeSH) and "Medicine, Chinese Traditional" (MeSH)
Cochrane Library	"Thyroiditis, Subacute" (in title, abstract, or keywords) and "Medicine, Chinese Traditional" (in title, abstract, or keywords)
CNKI	(a): Subacute thyroiditis, giant cell thyroiditis, sub-acute granulomatous thyroiditis and De Quervain thyroiditis (in titles). (b): In the result of (a), Traditional Chinese Medicine, Chinese herbal medicine and combination of TCM with Western Medicine (in full text). (c): In the result of (b), randomization (in full text).
VIP	TCM, or Chinese herbal medicine, or combination of TCM with Western Medicine, and randomization (in full text), subacute thyroiditis or giant cell thyroiditis or sub-acute granulomatous thyroiditis or De Quervain thyroiditis (in title).
CBM	TCM or CHM or combination of TCM with Western Medicine, subacute thyroiditis or giant cell thyroiditis or sub-acute granulomatous thyroiditis or De Quervain thyroiditis and randomization (in full text).

Notes: CNKI: China National Knowledge Infrastructure Database; VIP: China Science and Technology Journal Database; CBM: China Biological Medicine Database; TCM: Traditional Chinese Medicine; CHM: Chinese herbal medicine.

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