

Research Progress in the Treatment of Subacute Thyroiditis by Traditional Chinese Medicine

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Abstract: Subacute thyroiditis (SAT) is a self-limiting thyroid disease. At present, Western medicine mainly relies on the use of glucocorticoids and a variety of non-steroidal anti-inflammatory drugs in the treatment of SAT. Although the condition has been alleviated to a certain extent, its efficacy still needs to be further improved. Traditional Chinese medicine has unique advantages in the treatment of SAT. From the perspective of traditional Chinese medicine, this paper analyzed the understanding of traditional Chinese medicine in the etiology, pathogenesis and syndrome differentiation of SAT in recent years, and also reviewed the application of traditional Chinese medicine in the treatment of swelling with SAT, providing new insights and strategies for the clinical diagnosis and treatment of SAT.

Keywords: Subacute thyroiditis, TCM therapy, Summarize.

1. Introduction

Subacute thyroiditis (SAT), also known as granulomatous thyroiditis or dekuiban thyroiditis, is an inflammatory disease of the thyroid gland that has failed to unveil its mystery in the academic community over the years regarding its pathogenesis and clinical course and still requires our further exploration and answers [1]. SAT is a common condition that presents as thyromegaly with pain, marked by neck pain and general symptoms, and is a self-limiting inflammatory disease that is usually accompanied by abnormalities in thyroid function. In clinical practice, neck pain frequently radiates above the neck, which is a prominent manifestation of SAT. During palpation, the thyroid gland becomes painful, tender, and swollen. Common constitutional symptoms include fever, fatigue, muscle aches, and anorexia [2]. The peak incidence is between 30 and 50 years of age, and the incidence is three times higher in women than in men [3-4]. It usually occurs in genetically sensitive individuals carrying a certain human leukocyte antigen haplotype [5].

SAT usually goes through three different stages: first thyrotoxicosis, then hypothyroidism, and then recovery of thyroid function, lasting weeks to months [6].

Recognized drugs for the treatment of subacute thyroiditis include nonsteroidal anti-inflammatory drugs (NSAIDs) or anti-inflammatory drugs with prednisone. Patients who experience symptoms of hyperthyroidism (such as palpitations, anxiety, or tremor) can be treated with beta-blockers such as propranolol (40-120 mg) and should not be treated with thiamines [7].

In recent years, more and more studies have shown that TCM has unique advantages and multiple treatments for SAT treatment [8-9]. This study provides a systematic overview of the clinical experience of traditional Chinese medicine in the field of SAT treatment in recent years, which provides new strong evidence for the treatment strategies of SAT and helps to further promote the innovation and development of SAT treatment methods.

2. Understanding of SAT in Traditional Chinese Medicine

2.1 TCM Disease Name and Etiology and Pathogenesis

SAT, as the term for disease in Western medicine, has not been clearly documented in ancient Chinese literature. In TCM, it is divided into "gall carbuncle," "gall swelling," and "gall tumor." SAT is characterized by pain and is therefore often classified as "gall pain" in traditional Chinese medicine. Relevant records were first found in the Spring and Autumn Periods and the Warring States Period [10]. The gallbladder is shaped like a lantana collateral hence its name [11]. Chao Yuanfang's "Theory of Various Sources of Disease· Gall Waiting" in the Sui Dynasty contained: "People are due to drink sand water, sand enters the pulse with gas and beats under the neck to form gall disease; in the black soil of various mountains and rivers, ... often eat gall disease, and dynamic gas increases [12]."

This shows that gallstone disease is closely related to water and soil. In the Song Dynasty, Yan used and "Ji Sheng Fang · Gall Tumor Treatment" recorded: "Fu gall tumor, mostly caused by anger is not festival, excessive worrying, inappropriate adjustment, resulting in qi stagnation and blood coagulation into gall." Seven emotional internal injuries can cause gall disease [13]. "Authenticity of surgery gall theory" points out: "Madame gall disease, not yin and yang righteousness swelling, is the five viscera: blood stasis, turbid gas, and phlegm stagnation [14]. Professor Lin Yan proposed that SAT is based on spleen deficiency, lung heat as the standard, and "evil heat obstructing the lung-lung and stomach yin injury-deficiency of vital qi-evil to positive recovery" as the dynamic evolution of SAT, often accompanied by qi stagnation, phlegm coagulation, blood stasis, and other changes [15]. Professor Fang Bangjiang believes that subacute thyroiditis in the acute phase is due to exogenous wind temperature, wind heat invasion of the human body, and then in the anterior neck caused by the disease [16].

2.2 Dialectical Typing

Regarding the TCM syndrome types of SAT, different doctors performed personalized syndrome differentiation based on their rich clinical experience in order to grasp the nature of the disease more accurately and provide strong guidance for treatment. Professor Zhou Guoying has a unique understanding of the treatment of SAT and dialectically divides it into: exogenous wind-heat syndrome, which should be treated with dispelling wind and dispersing evil, strengthening, clearing away heat and toxic substances, and softening and hardening; liver depression and phlegm-heat syndrome, which should be treated with calming the liver and expelling heat, and resolving phlegm and dispersing mass [17]. Li Mingdysprosium summarized a large number of clinical experiences and summarized five common syndromes at the onset of subacute thyroiditis, including heat toxin accumulation, qi stagnation and phlegm coagulation, spleen and stomach weakness, deficiency of both heart and spleen, and spleen and kidney yang deficiency [18]. Professor Pei Zhengxue classified subacute thyroiditis as follows: (1) exogenous wind-heat syndrome (2) stagnant heat syndrome of the liver meridian (3) yin deficiency and internal heat syndrome [19]. According to clinical experience, Professor Yu Jiangyi adopted the staging dialectical method: wind heat toxin evil offending through the table in the early stage, qi stagnation and phlegm coagulation in the middle stage, and spleen and kidney yang deficiency in the later stage [20]. Professor Li Hong divided SAT into three phases: the heat-toxin exogenous phase, the phlegm-heat mutual junction phase, and the recovery phase [21]. In the research field of TCM syndrome differentiation and SAT classification, different physicians have formed their own characteristic dialectical ideas based on their rich clinical experience and insights. The criteria for syndrome differentiation in the relevant guidelines have not been unified, so it is necessary to study SAT, a TCM syndrome type.

3. Treatment of SAT with Traditional Chinese Medicine

3.1 Internal Treatment

3.1.1 Treat from Zang-Fu

Professor Wang Zhigang believes that the treatment of SAT should be based on the liver, with Qinggan Xiehuo and Shugan Jieyu as the starting points. For patients with severe liver fire in the early stage, Qinggan Xiehuo and Xiaoying Sanjie should be used as the treatment methods, and Gardenia Qinggan Decoction should be selected; In the middle stage, phlegm stagnation and blood stasis are obvious, and the treatment should be based on regulating qi and activating blood circulation, resolving phlegm and dispersing stasis, and calming the liver and relieving depression. Seaweed and jade pot decoction should be selected; in the late stage of the disease, yin deficiency and fire flourishing are obvious, and the method of nourishing yin and reducing fire, nourishing the heart, and softening the liver should be used [22].

Professor Lin Yan pointed out that the root cause of SAT lies in spleen deficiency and exuberant liver fire; the core of its pathogenesis lies in the key to exogenous pathogens causing

liver fire, wood fire gold, evil heat obstructing the lung, and then burning body fluid, phlegm, and blood stasis gradually formed, the two intertwined, gathered in the neck, and gradually developed into gall disease. The site of SAT is mainly in the lung and spleen, with spleen deficiency as the basis and lung heat as the standard, but it also affects the liver, stomach, and other viscera. The acute phase mainly attaches importance to clearing away heat and lung, detoxifying and penetrating evil, and the prescription is Maxingshigan Decoction; the remission phase is mainly clearing away heat and generating fluid, supplementing qi, and nourishing the stomach; the recovery phase is mainly based on tonifying qi, eliminating phlegm, and removing blood stasis; and the prescription is Buzhong Yiqi Decoction [23].

Professor Ding Zhiguo believes that emotional internal injury and invasion of exogenous pathogens are the key pathogenesis of SAT, and the theory of "dimple corresponding" is proposed for the first time to treat gall disease. Professor Ding believes that the method of clearing the liver and invigorating the spleen should continue the whole process of treatment. At the early stage of the disease, it is supplemented by the product of dispelling wind and clearing heat; at the middle stage, it is combined with the product of soothing the liver and nourishing yin; and at the recovery stage, it is added or subtracted from Professor Ding Yang and resolving phlegm. Professor Ding self-made "Qinggan Jianpi Xiaoying Fang" to treat subacute thyroiditis with the disease, and the drug composition mainly includes *Prunella vulgaris*, *Scutellaria baicalensis*, *Bupleurum chinense*, and *Astragalus membranaceus* [24].

3.1.2 Staged Dialectical Therapy

Professor Xinhe Zuo divided SAT into acute, intermediate, and convalescent phases. The acute phase is differentiated as exogenous wind-heat and fire-toxin syndrome, which is treated with Shufeng Qingre Zhitong and decoction with Yinqiao powder alloy Lingzi powder; the middle liver meridian stagnant heat syndrome is treated with Xiaochaihu Decoction, Wuwei disinfectant drink alloy Lingzi powder; and the yang deficiency and phlegm coagulation syndrome is treated with Yanghe Decoction; in the recovery phase, it is often manifested as deficiency of both qi and yin syndrome, which is treated mainly with supplementing qi and nourishing yin, as activating blood circulation, resolving phlegm, and dredging collaterals [25].

Professor Yue Rensong divided the SAT into three phases: early, middle, and late. In the initial stage, the treatment is based on clearing away Fu Du, penetrating evil qi, and adding or subtracting Puji disinfectant decoction; in the middle stage, the treatment is based on reconciling Shaoyang, promoting penetration of Fu Xie, and adding or subtracting Xiaochaihu Decoction combined with Chuanxiong Tea Powder; in the later stage, the treatment is based on reconciling Shaoyang, promoting penetration of Fu Xie, and adding or subtracting Xiaoyao Powder [26].

Professor Zhao Ling treats SAT by staging combined with typing and syndrome differentiation. The course of the disease is divided into hyperthyroidism and hypothyroidism. Hyperthyroidism is divided into four types: wind-heat

invasion, phlegm, and blood stasis type; excessive liver fire, phlegm, and blood stasis type; deficiency of both qi and yin, phlegm, and blood stasis type; damp-heat intrinsic type, phlegm, and blood stasis type. Hypothyroidism is divided into two categories: deficiency of both qi and yin and deficiency of both spleen and kidney. In the hyperthyroidism stage, the treatment of wind-heat invasion, phlegm-blood stasis type, to evacuate wind-heat, phlegm Sanjie, side with Yinqiao powder combined with Shengjiang powder addition and subtraction; treatment of excessive liver-fire, phlegm-blood stasis type, to soothe the liver and purge fire, phlegm Sanjie, side with Longdan Xiegan decoction combined with Shengjiang powder addition and subtraction; treatment of qi and yin deficiency, phlegm-blood stasis type with nourishing yin and reducing fire, qi and phlegm, side with Yiguan decoction or Zengye decoction addition and subtraction; damp-heat intrinsic type, phlegm-blood stasis type with clearing away heat and dampness, phlegm Sanjie, side with Ermiao powder. In the stage of hypothyroidism, the treatment of deficiency of both qi and yin is based on supplementing qi and nourishing yin, and Baoyuan Decoction combined with Shengmai Powder is used for addition and subtraction; deficiency of both spleen and kidney is based on tonifying spleen and kidney, and Sijunzi Decoction and kidney four flavors are proposed for addition and subtraction [27].

3.1.3 Empirical treatment

In the study by Ren Yidong et al. [28], 60 patients with SAT heat toxin stagnation syndrome were included and randomly divided into 2 groups. Among them, 30 cases in the control group received oral prednisone acetate tablets, and 30 cases in the observation group were treated with Yinqiao Jiedu Decoction (drug composition: honeysuckle, forsythia, *Prunella vulgaris*, *Corydalis yanhusuo*, dandelion, turmeric, etc.) on the basis of the control group, and after 8 weeks of treatment, the results showed that the observation group was superior to the control group in relieving clinical symptoms, improving thyroid function, reducing the level of inflammatory factors, and reducing the recurrence rate ($P < 0.05$).

Lin Ken et al. [29] divided 80 patients with painful SAT into two groups. 40 patients in the control group were treated with indomethacin capsules and prednisone acetate tablets orally, and 40 patients in the observation group were treated with a modified Puji disinfectant decoction for 6 weeks. The results showed that, compared with the control group, modified Puji disinfectant decoction in the treatment of subacute thyroiditis could significantly improve the clinical symptoms of patients and reduce the level of inflammatory response in the body, and the difference was statistically significant compared with the control group ($P < 0.05$).

Meng Jingxi et al. [30] randomly divided 60 patients with SAT fire stagnation and phlegm obstruction syndrome into two groups: 30 patients in the control group were treated with etoricoxib tablets and omeprazole enteric-coated capsules, and 30 patients in the treatment group were treated with Xiaoying Zhitong Decoction (drug composition: *Radix Bupleuri*, *Radix Paeoniae Alba*, *Rhizoma Atractylodis Macrocephalae*, *Radix Rehmanniae*, *Cortex Moutan*, *Prunella vulgaris*). The study found that compared with the control

group, Xiaoying Zhitong Decoction was more effective in relieving thyroid pain, reducing the time of fever subsidence after treatment, and significantly improving inflammatory indicators, and the differences were statistically significant compared with the control group ($P < 0.05$).

3.1.4 Single herb treatment

Xia Fanjiaying et al. [31] studied the efficacy of *Prunella vulgaris* granules in the treatment of SAT. A total of 68 patients with subacute thyroiditis were included in this study and randomly divided into the control group and the observation group. 34 patients in the control group received prednisone treatment, and the observation group was treated with prednisone combined with *Prunella vulgaris*. The results showed that *Prunella vulgaris* granules showed good efficacy in the clinical treatment of SAT, which could effectively improve the clinical symptoms of patients with thyromegaly, fever, etc., and significantly improve the laboratory examination indicators, and the effect was better than that of the prednisone treatment control group ($P < 0.05$).

3.2 Internal and External Treatment

3.2.1 Traditional Chinese medicine combined with ginger moxibustion

Ouyang Gen et al. [32] observed the efficacy of traditional Chinese medicine (drug composition: *Fritillaria thunbergii*, *Platycodon grandiflorum*, *Prunella vulgaris*, *Corydalis yanhusuo*, etc.) combined with ginger moxibustion in the treatment of subacute thyroiditis (106 cases), selected ginger moxibustion, acupoints Guanyuan, Qihai, Zusanli, and local Ashi points of the thyroid gland, moxibustion 3 times a week, 8 weeks for a course of treatment. The results showed that this method could improve the cure rate, correct thyroid biochemical indicators, reduce the incidence of adverse reactions, and reduce the incidence of hypothyroidism, which was superior to simple Chinese medicine treatment. This prescription has the effects of regulating qi and relieving pain, resolving phlegm and dispersing stasis, clearing away heat and toxic substances, etc., combined with ginger moxibustion, because ginger moxibustion can tonify vital qi, expel pathogenic factors, and remove blood stasis and dispersing stasis, so the effect is significant.

3.2.2 Combined application of traditional Chinese medicine

Yan Yu et al. [33] applied Yinpu Ganju Decoction (drug composition: honeysuckle, Shengpu Huang, *Radix Glycyrrhizae*, *Platycodon grandiflorum*, *Radix Bupleuri*, *Radix Scutellariae*, *Radix Codonopsis*, *Rhizoma Pinelliae*, *Radix Glycyrrhizae*, etc.) combined with Ruyi Jinhuang Powder external application (twice a day, the drug was fully mixed in Qingcha, externally applied to the neck pain, each time was controlled at 30 to 60 minutes, skin sensitivity could shorten the time and avoid adverse reactions) to treat 34 SAT patients with wind-heat attack table and heat toxin flaming syndrome, and compared with 34 patients treated with prednisolone acetate combined with arginine ibuprofen granules orally. The results showed that Yinpu Ganju Decoction combined with Ruyi Jinhuang Powder external application can effectively relieve neck swelling, and pain,

and other symptoms and significantly improve thyroid biochemical indicators. The therapeutic effect is significant.

Tian Yan et al. [34] used Direxiaoying Decoction (drug composition: Bupleurum chinense, Kudzu root, Cimicifuga racemosa, Scutellaria baicalensis, Coptis chinensis, Forsythia suspensa, Cicada slough, Arctium lappa, Platycodon grandiflorum, Lonicera japonica, etc.) combined with modified Jinhuang Powder external application (Yujin, Coptis chinensis, Magnolia officinalis, Phellodendron amurense, etc., grind into powder, add water to paste, wrap with gauze, externally apply to the enlarged thyroid gland, fix with bandages, once a day, each lasting 2 to 3 hours, continuous external application for 2 weeks) to treat. The results showed that T3, T4, CRP, and IL-6 in the observation group were lower than those in the control group ($P < 0.05$) and could improve the hard swelling and blood flow velocity of the thyroid gland. The overall efficacy was better than that of Diance Xiaoying Decoction alone.

Liao Liyi et al. [35] applied Zhizi Qinggan Decoction (drug composition: Bupleurum chinense, Gardenia jasminoides, Cortex Moutan, Poria cocos, Chuanxiong, Paeonia lactiflora, Angelica sinensis, Fructus arctii, Glycyrrhizae) oral and external application combined with auricular acupressure (auricular acupoint selection point to take the liver, heart, spleen, Shenmen, adhesive plaster sticking Vaccinium vulgare seeds to the corresponding acupoints in the ears, pressing acupoints once in the morning and once in the evening, for a total of 2 weeks) to treat 35 patients with SAT of exuberant liver-fire type, and compared with 35 patients treated with oral celecoxib capsules, methylprednisolone tablets, omeprazole enteric-coated tablets. After treatment, compared with the control group, the thyroid function indicators and TCM syndrome scores of the observation group were significantly reduced, and the differences were statistically significant ($P < 0.05$).

4. Nodules

Subacute thyroiditis is a common clinical disease; the main clinical manifestations are fever and neck pain. It is a common self-limiting thyroid disease in clinical practice. Western medicine treatment of this disease mostly uses glucocorticoids and non-steroidal anti-inflammatory drugs. Although the short-term effect is good, there are still some adverse reactions, such as hormone rebound, increased incidence of hypothyroidism, protracted condition, abnormal glucose metabolism, osteoporosis, and other adverse reactions [36]. Traditional Chinese medicine (TCM), guided by ideas such as "syndrome differentiation and treatment" and "overall concept," uses syndrome differentiation and treatment at the disease stage and internal and external treatment, which can significantly improve the clinical symptoms of patients, improve serum thyroid function indicators, improve treatment efficiency, shorten the treatment cycle, reduce the pain of patients, and improve the quality of life of patients [37]. However, at present, there are many syndrome differentiation types of thyroiditis, the diagnosis and treatment criteria are not uniform, and the efficacy evaluation is not uniform, which needs to be further improved [38]. SAT can be attributed to the categories of "gall disease" and "gall swelling" in traditional Chinese medicine, and the pathogenesis is mostly

exogenous evil toxin, with deficiency of qi and blood in the body and stagnation of liver-qi, resulting in the occurrence of the disease [39]. The etiology and pathogenesis of gall disease are summarized as qi stagnation, phlegm coagulation, and blood stasis, which interact in the neck [40]. External application of traditional Chinese medicine to the patient can cause lesions, produce stimulating effects, accelerate blood circulation, and improve the nutritional status of surrounding tissues in order to achieve detumescence and anti-inflammatory therapeutic effects [41]. However, the utility of external application of traditional Chinese medicine is not lasting, and some patients find it difficult to adhere to the use for a long time. We need to supplement traditional Chinese medicine for promoting blood circulation and removing blood stasis, regulating qi and reducing phlegm, and dispersing mass and detumescence to consolidate the therapeutic effect. Therefore, combined internal and external treatment has better clinical efficacy for the treatment of SAT, which is worthy of more in-depth research and exploration in the future.

References

- [1] Stasiak M, Lewiński A. New aspects in the pathogenesis and management of subacute thyroiditis[J]. Reviews in Endocrine and Metabolic Disorders, 2021, 22(4): 1027-1039.
- [2] Nishihara E, Ohye H, Amino N, et al. Clinical characteristics of 852 patients with subacute thyroiditis before treatment[J]. Internal Medicine, 2008, 47(8): 725-729.
- [3] Greene J N. Subacute thyroiditis[J]. The American journal of medicine, 1971, 51(1): 97-108.
- [4] Pearce E N, Farwell A P, Braverman L E. Thyroiditis[J]. New England Journal of Medicine, 2003, 348(26): 2646-2655.
- [5] Ohsako N, Tamai H, Sudo T, et al. Clinical characteristics of subacute thyroiditis classified according to human leukocyte antigen typing[J]. The Journal of Clinical Endocrinology & Metabolism, 1995, 80(12): 3653-3656.
- [6] Khatri A, Charlap E, Kim A. Subacute thyroiditis from COVID-19 infection: a case report and review of literature[J]. European Thyroid Journal, 2021, 9(6): 324-328.
- [7] Campos-Barrera E, Alvarez-Cisneros T, Davalos-Fuentes M, et al. Subacute thyroiditis associated with COVID-19[J]. Case reports in endocrinology, 2020, 2020: 1-4.
- [8] Zhang Cui, Pei Qin, Liu Heng et al. Clinical research progress of traditional Chinese medicine in the treatment of subacute thyroiditis [J]. Hubei Journal of Traditional Chinese Medicine, 2022, 44 (05): 63-66.
- [9] Jin Zhe, Mei Lan. Effect of ginger moxibustion combined with traditional Chinese medicine on serum 25- (OH) D3, ghrelin and TgAb, TMAb expression in patients with subacute thyroiditis [J]. Shanghai Journal of Acupuncture and Moxibustion, 2021, 40 (07): 835-840.
- [10] Chen Yanling, Wang Dongcai, Lin Jiwei, et al. Progress in Traditional Chinese Medicine for Subacute Thyroiditis [J]. Chinese Folk Therapy, 2021, 29 (24): 127-130.

- [11] Jiang Deyou, Qu Xiaoxue. TCM Syndrome Treatment of Gall Disease [J]. Henan Traditional Chinese Medicine, 2016, 36 (07): 1237-1239.
- [12] Chao Yuanfang. The theory of various sources of disease [M]. Beijing: People 's Medical Publishing House, 1982:266.
- [13] Zhu Haijuan. Emotional Pathogenesis and Treatment of Thyroid Disease [J]. Shandong Journal of Traditional Chinese Medicine, 2018, 37 (02): 101-103.
- [14] Huang Yuping, Li Chongchao. A Brief Discussion on Chen Shigong 's Rational Prescription for Treating Gall Tumor [J]. Journal of Zhejiang University of Traditional Chinese Medicine, 2016, 40 (07): 538-539 + 548.
- [15] Zhao Raihong, Lin Yan, Du Zongyu, et al. Treatment of Subacute Thyroiditis from the Lung and Spleen [J]. Chinese Journal of Clinicians, 2023, 51 (01): 114-116.
- [16] Kong Ziyuan, Bu Jianhong, Peng Wei, et al. Professor Fang Bangjiang 's Experience in the Treatment of Subacute Thyroiditis [J]. Chinese Journal of Traditional Chinese Medicine Emergencies, 2020, 29 (07): 1283-1286.
- [17] Chen Ting. Zhou Guoying 's Clinical Experience in Differentiating and Treating Subacute Thyroiditis [J]. Journal of Practical Traditional Chinese Medicine, 2023, 39 (10): 2065-2067.
- [18] Ai Yuzhen, Wei Maoying, Ba Zhiqiang, Li Mingdysprosium. Li Mingdysprosium 's Experience in Clinical Differentiation and Treatment of Subacute Thyroiditis [J]. Chinese Journal of Basic Medicine of Traditional Chinese Medicine, 2019, 25 (04): 559-560.
- [19] Sun Wenting, Bai Lijun, Wang Danmeng, et al. Introduction to Professor Pei Zhengxue 's Experience in Treating Subacute Thyroiditis [J]. Famous Doctor, 2019, (01): 37.
- [20] Tan Ying, Yu Jiangyi. Yu Jiangyi 's Experience in Differentiation and Treatment of Subacute Thyroiditis by Stages [J]. Jiangsu Traditional Chinese Medicine, 2023, 55 (01): 26-28.
- [21] Chen Yuting, Li Hong. Professor Li Hong 's experience in staging differentiation and treatment of subacute thyroiditis [J]. Chinese Journal of Traditional Chinese Medicine Emergencies, 2019, 28 (08): 1482-1484.
- [22] Yang Jie, Wang Zhigang. Director Wang Zhigang 's Experience in Treating Subacute Thyroiditis from "Exuberant Liver Fire" [J]. Clinical Research of Traditional Chinese Medicine, 2023, 15 (16): 99-102.
- [23] Zhao Caihong, Lin Yan, Du Zongyu, et al. Treatment of subacute thyroiditis from the lung and spleen [J]. Chinese Journal of Clinicians, 2023, 51 (01): 114-116.
- [24] Huang Sheng, Li Huilong, Qi Shuo, et al. Clinical Experience of Professor Ding Zhiguo in Treating Subacute Thyroiditis from the Liver and Spleen [J]. Tianjin Traditional Chinese Medicine, 2020, 37 (07): 806-808.
- [25] Li Huimin, Yang Zheyun, Xie Min, et al. Experience of Zuoxinhe Staged Treatment of Subacute Thyroiditis [J]. Hubei Journal of Traditional Chinese Medicine, 2020, 42 (10): 23-26.
- [26] Wang Jing, Wang Xiaomin, Yang Xu, et al. Yue Rensong based on the theory of Fu Xie staging differentiation and treatment of subacute thyroiditis [J]. Jiangsu Traditional Chinese Medicine, 2023, 55 (05): 20-23.
- [27] Xiao Weijia, Song Wei, Lan Liugui, et al. Zhao Ling 's experience in treating subacute thyroiditis by staging combined with syndrome differentiation [J]. Shandong Journal of Traditional Chinese Medicine, 2020, 39 (03): 289-291 + 313.
- [28] Ren Yidong, Wen Yan. Clinical Observation on Yinqiao Jiedu Decoction Combined with Low-dose Prednisone in the Treatment of Subacute Thyroiditis [J]. Bright Traditional Chinese Medicine, 2023, 38 (21): 4226-4230.
- [29] Lin Ken, Yu Guo, Zhao Xinyi, et al. Efficacy of modified Puji disinfectant decoction in the treatment of subacute thyroiditis and its effect on TCM syndrome and thyroid function parameters [J]. Sichuan Journal of Traditional Chinese Medicine, 2023, 41 (05): 158-162.
- [30] Meng Jingxi, Shan Liufeng, Lu Liang, et al. Efficacy of Xiaoying Zhitong Decoction combined with western medicine in the treatment of subacute thyroiditis of fire stagnation and phlegm obstruction type [J]. Chinese Medical Research, 2023, 36 (04): 32-36.
- [31] Fan Jiaying, Zhou Kai, Gong Wenbo. Effect of Prunella vulgaris combined with prednisone in the treatment of subacute thyroiditis [J]. Chinese Journal of Traditional Chinese Medicine Science and Technology, 2023, 30 (03): 498-500.
- [32] Ouyang root, Zhang Nai, Zeng Peng. Observation on the therapeutic effect of oral Chinese medicine combined with ginger moxibustion on subacute thyroiditis [J]. Jiangxi Traditional Chinese Medicine, 2023, 54 (12): 60-62 + 66.
- [33] Yan Yu, Zhang Ran, Gao Lei, et al. Clinical observation of Yinpu Ganju Decoction combined with Ruyi Jin San in the treatment of subacute thyroiditis [J]. Practical Journal of Traditional Chinese Medicine, 2023, 39 (07): 1285-1286.
- [34] Tian Yan, Chen Xin, Zhang Dan, et al. Clinical observation of oral administration of Direxiaoying decoction combined with external application of modified Jinhuang powder in the treatment of subacute thyroiditis of heat toxin flaming type [J]. Shandong Journal of Traditional Chinese Medicine, 2023, 42 (05): 473-478.
- [35] Liao Liyi, Wei Aisheng. Efficacy of Gardenia Qinggan Decoction combined with auricular point pressing bean in the treatment of subacute thyroiditis [J]. Chinese Journal of Traditional Chinese Medicine Emergency, 2020, 29 (12): 2154-2157.
- [36] Shuai Youyou, Zhang Hongwu, Le Youqing, et al. Clinical observation of Yingtong Recipe in the treatment of subacute thyroiditis [J]. Journal of Guangzhou University of Traditional Chinese Medicine, 2022, 39 (10): 2279-2284.
- [37] Feng Chunpeng, Yan Xiufeng, Geng Shujun. Problems and countermeasures in the diagnosis and treatment of subacute thyroiditis with integrated traditional Chinese and western medicine [J]. Jilin Traditional Chinese Medicine, 2022, 42 (02): 191-194.
- [38] Zhang Cui, Pei Qin, Liu Heng, et al. Clinical research progress of traditional Chinese medicine in the treatment of subacute thyroiditis [J]. Hubei Journal of Traditional Chinese Medicine, 2022, 44 (05): 63-66.
- [39] Gao Cong. Jieduholuo Xiaoying Decoction in the Treatment of 75 Cases of Subacute Thyroiditis with Heat

- Toxicity Stagnation Syndrome [J]. Zhejiang Journal of Traditional Chinese Medicine, 2022, 57 (02): 125.
- [40] Chen Yanling, Wang Dongcai, Lin Jiwei, et al. Progress in Traditional Chinese Medicine for Subacute Thyroiditis [J]. Chinese Folk Therapy, 2021, 29 (24): 127-130.
- [41] Wang Sixuan, Ning Lei, Duan Jun. Systematic evaluation of oral administration and external application of traditional Chinese medicine in the treatment of subacute thyroiditis [J]. Journal of China-Japan Friendship Hospital, 2021, 35 (05): 288-290.