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A Case Report on the Treatment of Hyperthyroidism in Schizophrenia Comorbidity with Traditional Chinese and Western Medicine

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Abstract: ***Objective: To explore the clinical application value and ideas of the collaborative mode of traditional Chinese and Western medicine based on syndrome differentiation and treatment in the treatment of complex schizophrenia. Methods: the diagnosis and treatment process of a 53 year old female patient with schizophrenia comorbid hyperthyroidism was reported in detail. The patient had a history of 25 years, was intolerant to a variety of antipsychotics and had repeated symptoms. A small dose of olanzapine (5mg/day) combined with escitalopram oxalate (10mg/day) was used. According to the syndrome differentiation of traditional Chinese medicine, the treatment was divided into three stages: the first diagnosis (liver depression and phlegm disturbance, heart and spleen deficiency) was treated with soothing liver depression, resolving phlegm and opening orifices, invigorating spleen and benefiting qi, and Chaihu Shugan powder combined with Wendan Decoction was used as the decoction; The second diagnosis (liver and kidney deficiency, spleen and stomach weakness) is to nourish the liver and kidney, strengthen the spleen and appetizer; Three diagnostic methods (deficiency Yang floating over, phlegm heat internal disturbance) are used to calm nerves, clear away heat and dissipate phlegm. Results: after treatment, the patients' positive symptoms such as hallucination and delusion disappeared, the hyperthyroidism related physical symptoms and drug side effects were significantly improved, and the condition was stable. Conclusion: this case shows that the dynamic syndrome differentiation of traditional Chinese medicine based on the principle of "corresponding prescriptions and syndromes" can effectively cooperate with western medicine, significantly improve the physical symptoms and drug side effects of patients while controlling mental symptoms, reflecting the synergistic advantages of traditional Chinese medicine and Western medicine of "dynamic syndrome differentiation, simultaneous treatment of physical diseases, synergy and detoxification".***

Keywords: Schizophrenia; Hyperthyroidism; Integrative medicine therapy; Epilepsy syndrome; Syndrome differentiation and treatment; Case report.

1. INTRODUCTION

Schizophrenia is a severe mental disease characterized by perception, thinking, emotion, behavior and other obstacles [1]. About 0.75% of the global population is affected by it. Although the prevalence rate is not high, the disability rate is high, ranking 12th in the global disease burden study in 2016 [2,3]. The average life span of patients is about 15 years shorter than that of the general population, and the lifetime suicide risk is as high as 5%-10% [4]. Schizophrenia has a significant genetic tendency, with a heritability rate of about 80% [5] and causes a heavy social and economic burden. In 2019, the relevant costs in the United States reached 343.2 billion US dollars [6].

Traditional Chinese medicine has a long history in the treatment of mental disorders, and the clinical manifestations of "epilepsy" have many similarities with schizophrenia. Traditional Chinese medicine believes that its pathogenesis is mainly qi depression, phlegm condensation, fire disturbance, blood stasis, leading to dysfunction of Zang Fu organs, yin and yang imbalance, upper Mongolia Qingqiao and disease [7]. Modern research shows that traditional Chinese medicine, as an auxiliary treatment, has certain advantages in improving the clinical symptoms of patients with schizophrenia, reducing the side effects of antipsychotics and improving the quality of life [8,9].

At present, the exact molecular mechanism of schizophrenia has not been fully clarified, and there is a lack of specific biomarkers as a diagnostic basis. In this context, transcriptional activity regulators and their vectors or receptors have become a key bridge between genetic factors and environmental factors, and are also considered to

be important determinants in the pathogenesis of schizophrenia. Among them, the role of thyroid hormone is particularly prominent. Thyroid hormone plays an important role in the development and functional maintenance of adult brain, and its abnormal level at any stage of life may lead to clinical manifestations of mental disorders [10]. Although hyperthyroidism with psychotic symptoms is relatively rare, which is about 1% of the cases, such psychiatric symptoms often occur in patients with previous history of mania or delirium [11]. Sumi et al. (2023) reported a 32 year old Japanese woman with Graves' disease and schizophrenia. The case revealed the correlation between mental symptoms and thyroid hormone levels at the individual level: mental symptoms worsen with the increase of thyroid hormone levels, and abnormally high thyroid hormone may even induce hallucinations [12]. Ressler et al. (2023) pointed out that hyperthyroidism can cause a variety of neuropsychiatric symptoms, including anxiety, depression, mania and psychotic manifestations; One of its rare clinical manifestations, catatonia, is also a syndrome characterized by immobility, silence, stiffness and other psychomotor abnormalities [13]. Marian et al. (2009) stressed that thyroid disease should be highly valued in the differential diagnosis of mental symptoms, and early intervention of hormone or metabolic disorders can help to minimize secondary psychopathological changes [14]. At present, the clinical research on schizophrenia comorbidity hyperthyroidism is still relatively limited, and the number of relevant case reports is small. Most of the existing reports focus on the simple western medicine therapy. The purpose of this study is to report a case treated with integrated traditional Chinese and Western medicine, and to provide new ideas and references for clinical diagnosis and treatment.

2. CASE DATA

The patient was a 53 year old female. He was hospitalized in June 2025 because of "repeated abnormal words and deeds for 25 years, aggravated for 3 months". Twenty five years ago, the patient had no clear cause of mental disorder, which manifested as hypersensitivity and paranoia, delusion of victimization, sense of control, loose thinking, insomnia, etc. the patient was diagnosed as "schizophrenia" in the hospital and treated with clozapine, and the symptoms were well controlled. In March 2025, due to the aggravation of insomnia, the patient switched to quetiapine fumarate on his own, with poor curative effect, and significant weight loss (about 3.5-4kg), fatigue and sweating. The physical examination found "hyperthyroidism", and they were treated with antithyroid drugs. Clozapine was discontinued because of leukopenia after taking the medicine. Since then, the patient's symptoms such as insomnia and sense of control have worsened sharply. In June 2025, he developed verbal auditory hallucination, relationship delusion (believing that his neighbors cast magic), and persecution delusion (believing that he was chased by the Mafia), accompanied by severe anxiety, multiple physical discomfort and hypochondriac concepts, so he was admitted to our hospital.

Physical examination on admission: absent-minded, indifferent expression, dark complexion and few words. Physical examination: fatigue, chills and sweating. The tongue is light and the fur is white and greasy.

Western medicine diagnosis: 1) schizophrenia 2) hyperthyroidism

TCM diagnosis: epilepsy (liver depression and phlegm disturbance, heart and spleen deficiency syndrome)

3. TREATMENT METHOD

3.1 Western Medicine Treatment

Olanzapine tablets 5mg once a night and escitalopram oxalate tablets 10mg once a day were administered orally.

3.2 TCM Treatment

3.2.1 First diagnosis

The syndrome differentiation is stagnation of liver qi, phlegm turbid internal resistance, deficiency of both heart and spleen, and disharmony between Ying and Wei. The treatment is to soothe the liver and relieve depression, dissipate phlegm and resuscitation, strengthen the spleen and replenish qi, and harmonize Ying and Wei. Chaihu Shugan powder combined with Wendan Decoction and Ditan Decoction were selected as the formula: Chaihu 10g, Chuanxiong 15g, Cyperus rotundus 10g, tangerine peel 10g, Paeonia lactiflora 15g, Rhizoma Pinelliae 10g, Poria cocos 30g, Fructus aurantii 10g, Acorus tatarinowii 10g, Polygala tenuifolia 6G, Ramulus Cinnamomi 10g, jujube 10g, American ginseng 10g, Scutellaria baicalensis 10g. A total of 7 doses, 1 dose per day, decocted and taken separately.

Prescription: Radix Bupleuri, Rhizoma Cyperi, Fructus aurantii Immaturus, Pericarpium Citri Reticulatae, Rhizoma Pinelliae, Poria cocos, Rhizoma acori tatarinowii, Radix Polygalae for eliminating phlegm and inducing resuscitation, Ramulus Cinnamomi, Radix Paeoniae Alba and jujube for regulating Ying and Wei, American ginseng for nourishing qi and Yin, Ligusticum chuanxiong for activating blood circulation and Qi, Radix Scutellariae and Radix Bupleuri for clearing heat and reconciling Shaoyang. The whole prescription has the effect of soothing the liver and resolving phlegm, strengthening the body and eliminating pathogenic factors.

3.2.2 Secondary diagnosis

After taking the medicine, the mental symptoms and physical discomfort were relieved, but chills, anorexia, dry mouth and frequent nocturnal urination were observed. Syndrome differentiation turns to liver and kidney deficiency, spleen and stomach weakness. It is treated by nourishing the liver and kidney, invigorating the spleen and appetizing the stomach, and soothing the liver and resolving phlegm. The prescription is based on the first diagnostic prescription, including Ramulus Cinnamomi, American ginseng and Scutellaria baicalensis, plus 15g cooked Rehmannia glutinosa, 15g wine cornel meat, 10g Chinese yam, 6G Amomum villosum (lower back), 20g malt and 10g hawthorn. There are 7 doses in total.

Prescription: reduce the heat clearing products, add cooked Rehmannia glutinosa, Cornus officinalis and yam (the "three tonics" of Liuwei Dihuang pills) to nourish the liver and kidney; Amomum villosum dissolves dampness and moves Qi, preventing greasiness and stomach obstruction; Malt and hawthorn are good for digestion and stomach. The focus of treatment shifted from eliminating pathogenic factors to strengthening health.

3.2.3 Three diagnosis

After taking the medicine, the mental symptoms basically disappeared, but there were sweating, irritability, constipation and yellow tongue coating. The syndrome differentiation is deficiency Yang floating, phlegm heat internal disturbance. The treatment is to calm the nerves, clear away heat and phlegm, and soothe the liver. The prescription was given Radix Bupleuri 10g, Ligusticum chuanxiong 15g, Rhizoma Cyperi 10g, Pericarpium Citri Reticulatae 10g, Radix Paeoniae Alba 15g, Rhizoma Pinelliae 10g, Poria cocos 30g, Fructus aurantii 10g, Zhuru 10g, jujube 10g, calcined oyster 20g (decocted first), forged keel 20g (decocted first). 7 doses in total.

Recipe: calcine oyster and forge keel in the recipe, which can calm the nerves and strengthen Yang and astringency; Zhuru Qingre Huatan, combined with Fructus aurantii Immaturus, Pinellia ternata, Poria cocos and Pericarpium Citri Reticulatae, is the meaning of Wendan Decoction to clear gallbladder and stomach; Keep Radix Bupleuri, Radix Paeoniae Alba and other products that soothe and soften the liver. The whole prescription aims at calming liver and suppressing yang, clearing heat and resolving phlegm.

4. THERAPEUTIC EFFECT

The delusion, sense of control and general discomfort of the patients were significantly reduced after diagnosis; 2. After diagnosis, appetite improved and physical strength increased; The symptoms such as irritability and sweating were relieved after the third diagnosis. After three-stage treatment, the patient's mental symptoms disappeared completely, physical symptoms improved significantly, and the patient's condition was stable and discharged.

5. DISCUSSION

Schizophrenia belongs to the category of "epilepsy syndrome" in traditional Chinese medicine, and its pathogenesis is mostly related to the dysfunction of liver, spleen, heart and kidney. The liver governs catharsis, and emotional failure leads to stagnation of liver qi; The spleen governs the movement and transformation, and the stagnation of the liver by the spleen will lead to the loss of healthy movement of the spleen and the accumulation of dampness and phlegm; Phlegm and Qi are combined with each other, disturbing the orifices and clearing the orifices. Epilepsy occurs. The patient in this case had a long course of disease, long illness and injury, and was intervened by antipsychotics and antithyroid drugs, resulting in complex constitution and presenting syndrome of deficiency and excess.

This case report describes in detail the diagnosis and treatment process of a 53 year old female patient with

hyperthyroidism complicated by schizophrenia, and shows the comprehensive advantages and unique ideas of integrated traditional Chinese and Western medicine in the treatment of complex mental diseases. The patient had a history of up to 25 years and showed typical psychotic symptoms at the initial stage, including hypersensitivity and paranoia, delusion of victimization, sense of control, thinking logic disorders and sleep problems. He had been treated with clozapine and the symptoms were well controlled. However, after switching to quetiapine fumarate for insomnia in 2025, not only did the sleep problem not be solved, but also there were physical symptoms such as significant weight loss, fatigue, sweating, and hyperthyroidism. After taking anti hyperthyroidism drugs, the white blood cell decreased, and after stopping clozapine, the mental symptoms increased sharply, including auditory hallucinations, delusions of relationship, delusions of victimization, and serious anxiety and physical discomfort. Finally, they were hospitalized for treatment.

The key to the success of this case is to accurately grasp the evolution of pathogenesis in different stages of the disease, and dynamically adjust the treatment plan: first diagnosis (acute stage): both attack and supplement, and reconcile the exterior and interior. At the first visit, the symptoms of the patient were prominent (liver depression, phlegm obstruction), but the deficiency of origin (deficiency of both heart and spleen, deficiency of Qi and Yin) was also very obvious. The prescription uses Chaihu Shugan powder to soothe the liver and regulate qi, combined with Wendan Decoction to remove dampness and phlegm, and Acorus calamus and Polygala to imitate Ditan Decoction to open the mind and directly attack the pathogenesis core of "qi stagnation and phlegm Mongolia". At the same time, Guizhi Decoction was used to reconcile Yingwei and Yingwei to treat sweating and chills, American ginseng was used to replenish qi and nourish yin, and Bupleurum Scutellaria was used to reconcile Shaoyang to smooth the cardinal axis. The whole prescription is well conceived. While attacking evil spirits, it does not forget to protect the human body. Therefore, it can take effect quickly and relieve the main pain.

Second diagnosis (transition period): strategic shift, training and fundamental. When the symptoms of phlegm and Qi obstruction are relieved, the deeper essence of liver and kidney deficiency (fear of cold, nocturia) and spleen and stomach weakness (poor appetite) are exposed. The focus of treatment shifted decisively from "attacking evil" to "strengthening health". In the prescription, learn about Ramulus Cinnamomi, Scutellaria baicalensis and Panax quinquefolium, and add rehmannia, Cornus officinalis and yam (the "three tonics" of Liuwei Dihuang pills) to nourish the kidney and replenish the essence, so as to nourish the congenital; And use Amomum villosum to dissolve the greasiness of cooked land, malt and hawthorn to digest and strengthen the stomach, and wake up the foundation of the day after tomorrow. This adjustment profoundly reflects the therapeutic wisdom of traditional Chinese medicine "treating the symptoms if urgent, and treating the root if slow".

Three diagnosis (stable period): clear the battlefield and consolidate achievements. After a large dose of tonic, although the mental symptoms disappeared, the syndrome of "deficiency of Yang floating over" and "phlegm heat" appeared (irritability, sweating, constipation, yellow tongue). The treatment immediately changed to focus on Qianyang (calcined keel, calcined oyster), clearing heat and resolving phlegm (adding Zhuru to form a complete Wendan Decoction). This prescription is actually a combination of Chaihu jialonggu Muli Decoction and Wendan Decoction. It aims to reduce floating Yang, remove waste heat, and maintain the basis of soothing liver and regulating qi to prevent recurrence of the disease. This step ensures the stability of curative effect.

Through the three-stage dynamic syndrome differentiation treatment, the positive mental symptoms of the patients not only disappeared completely, but also a series of physical symptoms (fatigue, fear of cold, sweating, anorexia, nocturia) and the effects of drug side effects were significantly improved, and finally reached the ideal state of comprehensive and stable disease. This case provides us with many valuable inspirations:

The comprehensive rehabilitation concept of "treating both physical and mental diseases": TCM treatment does not only focus on "antipsychotics", but takes the patient as a whole to comprehensively repair the physical and mental state devastated by diseases and drugs for a long time. By regulating qi and blood, harmonizing Yin and Yang, and tonifying viscera, the synchronous rehabilitation of spirit and body is finally realized, and the quality of life of patients is improved.

Synergy advantage of "synergy and detoxification": Chinese and Western Medicine showed perfect synergy in this case. Low dose western medicine can control the core symptoms, while traditional Chinese medicine can effectively alleviate the potential side effects of Western Medicine (such as gastrointestinal discomfort and metabolic problems), and may enhance the efficacy of Western medicine through overall regulation, thus allowing the use of lower doses of Western medicine, which greatly improves the safety and compliance of treatment.

Decision wisdom of dynamic syndrome differentiation: this case is a model of "treating the same disease differently". Doctors are not bound by the western medicine diagnosis of "schizophrenia", but firmly grasp the main TCM syndromes at each stage and boldly adjust the treatment principles and prescriptions. This flexible dialectical thinking is the key to achieve curative effect.

6. CONCLUSION

The successful treatment of this case of hyperthyroidism with schizophrenia comorbidity fully proves the great value and broad prospects of the collaborative mode of Chinese and Western medicine. For the treatment of complex diseases facing the bottleneck of Western medicine, the overall concept of traditional Chinese medicine, the thought of syndrome differentiation and treatment, and the flexibility of the application of prescriptions and drugs can provide a new perspective and effective solutions. The strategy of "dynamic differentiation of symptoms and signs, simultaneous treatment of physical diseases, increasing efficiency and reducing toxicity" embodied in this case provides extremely valuable ideas and models for the clinical diagnosis and treatment of such complex and difficult cases, which is worthy of further research and application.

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CONFLICT OF INTEREST

The authors declare no conflicts of interest relevant to this study.

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