

HaiTang Heji Formula for Moderate Rosacea Refractory to Conventional Therapies: A Case Report Demonstrating Holistic Improvement in Physical and Psychological Symptoms

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Abstract: Rosacea is a chronic inflammatory skin disease that significantly impacts patients' quality of life. Current treatments have limitations. We report a case of moderate papulopustular rosacea effectively treated with the Chinese herbal formula HaiTang Heji. A 34-year-old Asian woman with a 3-year history of recurrent facial erythema, papules, pustules, and flushing, refractory to conventional therapies, showed significant improvement after 16 weeks of HaiTang Heji 20mL tid. Investigator Global Assessment (IGA) decreased from 3 to 1, Global Flushing Severity Scale (GFSS) from 3 to 1, anxiety scores decreased from moderate to mild levels, and depression scores decreased from mild to minimal levels. The patient tolerated the treatment well with no reported adverse effects, highlighting the potential safety of this herbal formula. Response was largely maintained at 21-week follow-up. HaiTang Heji's therapeutic mechanisms may involve anti-inflammatory, immunomodulatory, anti-angiogenic, and gut-brain-skin axis modulation. Further research is warranted to confirm its efficacy and safety as an alternative rosacea treatment.

Keywords: rosacea, HaiTang Heji, Chinese herbal medicine, Tripterygium hypoglaucum, case report, flushing, quality of life

Introduction

Rosacea is a chronic inflammatory skin disorder characterized by facial erythema, flushing, telangiectasia, papules, and pustules. Patients often experience stinging, burning, and significant psychosocial distress.¹ Current therapies, including topical alpha-agonists, oral antibiotics, and light devices, are limited by adverse effects, frequent relapses, and incomplete efficacy.¹ Chinese herbal medicine shows promise in rosacea management.²

HaiTang Heji, a formula containing Tripterygium hypoglaucum, Bamboo, Radix Paeoniae Rubra, Raphanus sativus, and Aurantii fructus, has been used in traditional Chinese medicine for centuries to treat various inflammatory skin conditions.³ Its key ingredient, Tripterygium hypoglaucum, inhibits pro-inflammatory cytokines (IL-1 β , IL-6, TNF- α), transcription factors (NF- κ B), and angiogenesis pathways (VEGF) involved in rosacea pathogenesis.^{4,5} The safety profile of HaiTang Heji is generally favorable, with no major adverse effects reported in the literature, making it a promising candidate for long-term rosacea management.²

Case Presentation

A 34-year-old female presented with a 3-year history of recurrent facial erythema, papules, and flushing. Symptoms first appeared on the cheeks and nose, gradually worsening in severity and frequency. She reported frequent flushing episodes triggered by heat,

stress, spicy foods, and alcohol. Physical examination revealed moderate erythema and inflammatory papules distributed on the bilateral cheeks and nose. The affected skin was slightly edematous and tender. Telangiectasia was mild. No ocular or phymatous changes were noted. Previous topical metronidazole and oral doxycycline provided only temporary improvement.

The patient was diagnosed with moderate erythematotelangiectatic rosacea (ETR) based on clinical findings and the National Rosacea Society Expert Committee diagnostic guidelines.⁶ Flushing severity was assessed using the Global Flushing Severity Scale (GFSS), scoring 3 (moderate) at baseline.⁷ The Investigator Global Assessment (IGA) score was 3, indicating moderate disease.⁸

The patient expressed significant distress over her skin condition, which negatively impacted her professional and social interactions. She scored 18 on the Hospital Anxiety and Depression Scale anxiety subscale (HADS-A), indicating moderate anxiety, and 15 on the depression subscale (HADS-D), suggestive of mild depression.⁹ Her Dermatology Life Quality Index (DLQI) was 18, reflecting a very large impact on quality of life.

After discussing conventional treatment options, the patient expressed interest in traditional Chinese medicine. HaiTang Heji, an oral liquid formula, was selected and administered at 20mL three times daily for 16 weeks, along with daily physical sunscreen using a facial mask and gentle skincare. The patient was counseled on common rosacea triggers and asked to keep a symptom diary. Clinical evaluations were performed every 4 weeks to monitor response and adverse effects. After 16 weeks, IGA decreased from 3 to 1, GFSS from 3 to 1, HADS-A from 18 to 8, HADS-D from 15 to 6, and DLQI from 18 to 6 (Figures 1 and 2). The patient tolerated the treatment well with no reported side effects. Response was largely maintained at 21-week follow-up.

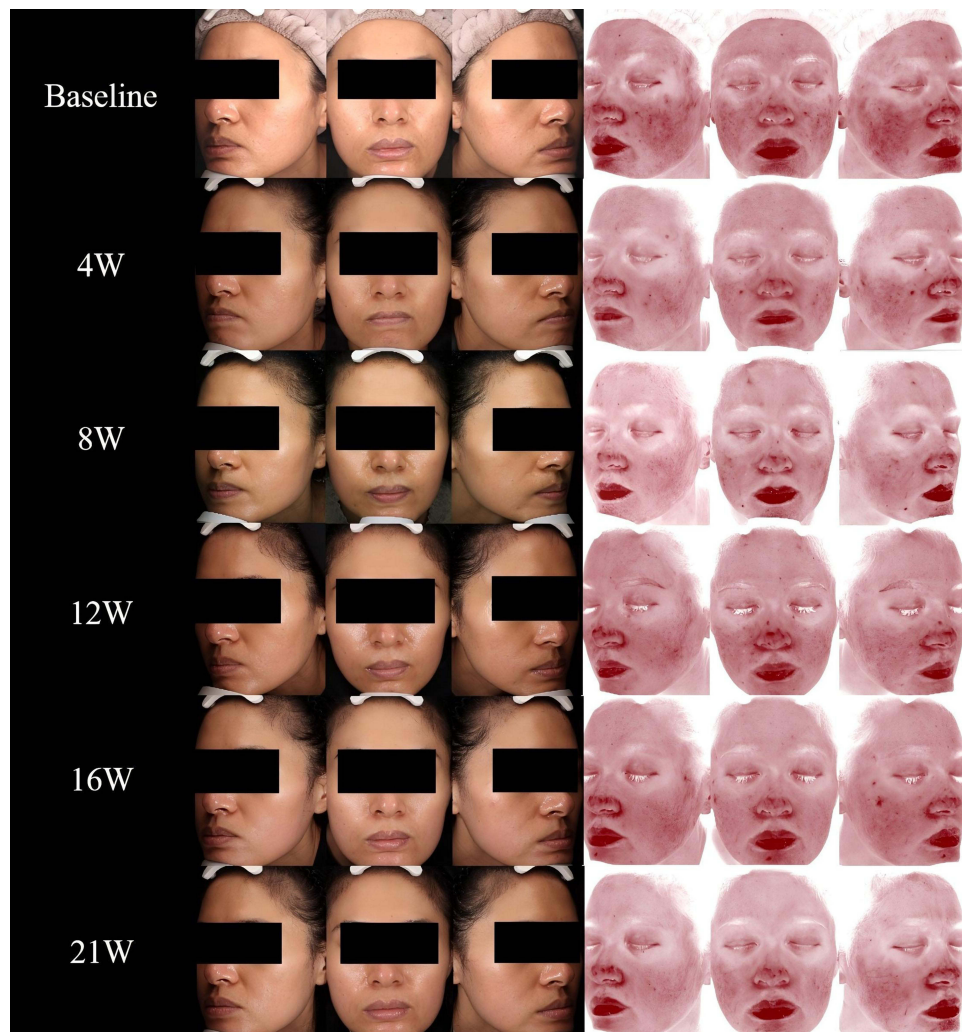


Figure 1 Clinical photographs showing improvement of rosacea during treatment with HaiTang Heji formula. Clinical photographs of the patient with rosacea at baseline and after 4, 8, 12, 16 and 21 weeks of treatment with HaiTang Heji formula. Gradual improvement in facial erythema and papules can be observed over the treatment course.

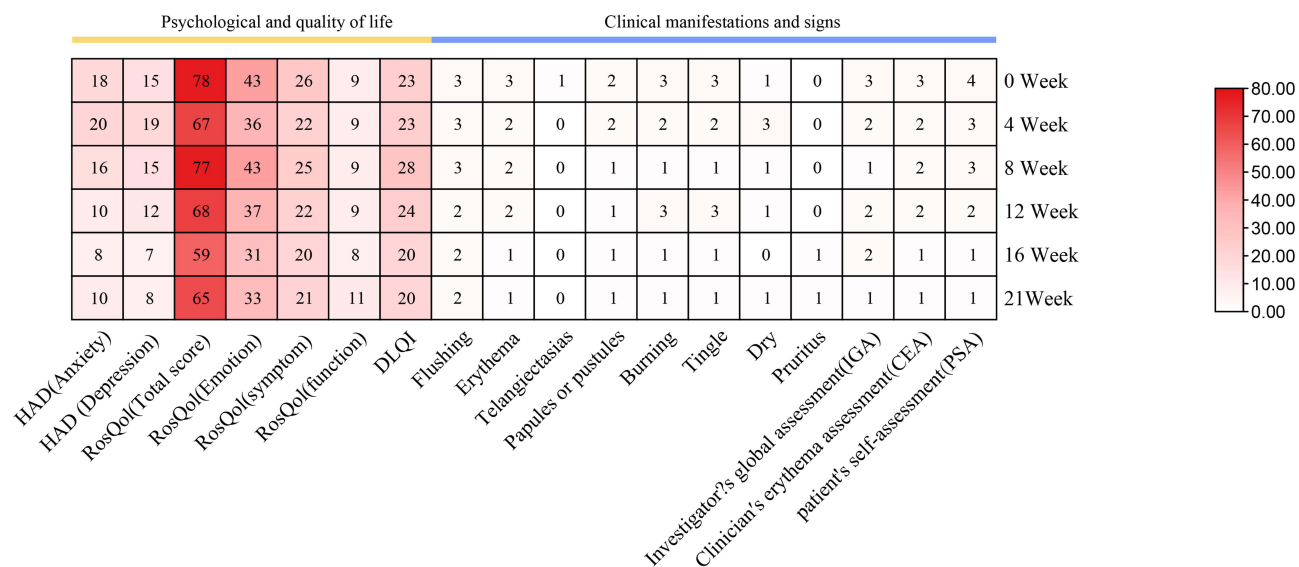


Figure 2 Changes in psychological scores and clinical manifestations of the patient over the 21-week treatment period with HaiTang Heji formula. Flushing, erythema, papules, pustules, and telangiectasia were evaluated on a 4-point scale (0=absent, 1=mild, 2=moderate, 3=severe). A steady improvement in both psychological well-being and rosacea signs and symptoms was observed.

Abbreviations: HAD-A, Hospital Anxiety and Depression Scale-Anxiety subscale; HAD-D, Hospital Anxiety and Depression Scale-Depression subscale; ReQol, Recovering Quality of Life questionnaire; DLQI, Dermatology Life Quality Index.

Discussion

This case demonstrates HaiTang Heji's efficacy in moderate erythematotelangiectatic rosacea refractory to conventional treatments, with dual improvement in physical symptoms and psychological well-being, possibly involving anti-inflammatory, immunomodulatory, anti-angiogenesis, and gut-brain-skin axis mechanisms.^{4,5,10,11} The formula's favorable safety profile, with no adverse effects reported in this patient or in the literature, supports its potential for long-term use, but further monitoring is warranted.²

HaiTang Heji's therapeutic effects are likely mediated by its key ingredient *Tripterygium hypoglaucom*, which has been shown to potently inhibit IL-1 β , IL-6, TNF- α , NF- κ B, and VEGF signaling in preclinical models of inflammation and angiogenesis.^{4,5} These pathways are critical drivers of rosacea pathogenesis, suggesting that *Tripterygium hypoglaucom* may target multiple mechanisms to achieve a synergistic treatment response.¹ The formula's anti-inflammatory and immunomodulatory properties may help reduce erythema and papules, while its anti-angiogenic effects could improve telangiectasia and flushing.^{4,5}

Furthermore, HaiTang Heji's potential to modulate the gut-brain-skin axis may underlie its beneficial effects on psychological symptoms.^{10,11} Rosacea is associated with an increased risk of gastrointestinal comorbidities, suggesting a link between gut dysbiosis and skin inflammation.¹⁰ By regulating gut microbiota composition and neuroendocrine signaling, HaiTang Heji could exert holistic effects on both dermatological and psychological manifestations of rosacea.¹¹

The significant improvement in quality of life observed in this case highlights the importance of addressing the psychosocial burden of rosacea.⁹ As a chronic and relapsing condition affecting central facial areas, rosacea can cause considerable emotional distress, social anxiety, and self-consciousness.⁹ The concurrent reduction in anxiety and depression scores along with cutaneous symptoms suggests that HaiTang Heji may provide a comprehensive treatment approach targeting both physical and mental well-being.

Limitations of this study include its single-case nature, lack of a control group, and relatively short follow-up period. Placebo effects cannot be excluded, given the subjective nature of some outcomes like flushing and psychological scores. Larger-scale randomized controlled trials are needed to validate HaiTang Heji's efficacy, elucidate its mechanisms of action, optimize dosing regimens, and assess long-term safety and relapse rates.³

Future research directions could include head-to-head comparisons with conventional therapies, as well as combination approaches to explore potential synergistic effects. Investigating HaiTang Heji's impact on gut microbiota composition and metabolic profiles could provide further insights into its mechanisms of action and identify potential biomarkers to predict treatment response. Given the high prevalence of psychosocial comorbidities in rosacea, studies specifically assessing quality of life and mental health outcomes are also warranted.

Conclusion

This case report suggests that HaiTang Heji could be a promising therapeutic option for moderate erythematotelangiectatic rosacea, particularly in cases refractory to standard therapies. By targeting both physical symptoms and psychological well-being, it may offer a holistic approach to rosacea management. While further research is needed to establish its efficacy and safety, HaiTang Heji and other evidence-based Chinese herbal medicines may represent valuable additions to the current rosacea treatment armamentarium, providing alternative or complementary strategies to optimize patient outcomes.

Ethical Considerations

This case report was conducted in accordance with the principles outlined in the Declaration of Helsinki. The patient provided written informed consent for the publication of this report and accompanying images. According to the policy of the Ethics Committee of West China Hospital, Sichuan University, institutional review board (IRB) approval was not required for a single case report.

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Xu Liu and Yanbing Han contributed equally to the article and claim as co-1st authors. Linghong Guo and Xian Jiang are Corresponding Authors. We sincerely thank the patient for allowing us to share her clinical journey in this report.

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Disclosure

The authors report no conflicts of interest in this work.

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