Pathogenesis and Treatment of Senile Constipation Based on Sanjiao Qi Transformation Theory

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Abstract: Senile constipation is a common clinical disorder. With the accelerating population aging in China, its incidence has been increasing year by year. Applying the traditional Chinese medicine (TCM) Sanjiao qi transformation theory to explore the pathogenesis and treatment of senile constipation provides an innovative academic perspective. As the essential passage for the circulation of qi and blood, Sanjiao participates in the whole process of the generation, distribution and metabolism of qi, blood and body fluids, and is closely correlated with the onset and progression of constipation. Based on the Sanjiao qi transformation theory, integrated TCM intervention combined with lifestyle regulation presents prominent advantages in the management of senile constipation.

***Keywords*:** senile constipation; Sanjiao qi transformation; living habits

1. Introduction

Senile constipation mainly occurs in the elderly aged 60 years and above. It is primarily caused by dysfunction of large intestinal conduction, manifesting as dry stool and difficult defecation[1]. Its pathogenesis involves not only intrinsic visceral deficiency in the elderly, but also unhealthy living habits[2]. Physical inactivity and improper diet commonly seen in the elderly may lead to inhibited qi transformation and disordered body fluid metabolism. As a core component of classical TCM theories, the Sanjiao qi transformation theory offers a new theoretical basis for interpreting the pathogenesis and establishing therapeutic principles of senile constipation.

2. TCM Understanding of Senile Constipation

In TCM, senile constipation falls into the category of difficult defecation. Ancient physicians believed that its etiological factors include aging-induced physical deficiency, dietary injury to the stomach, external pathogen invasion and emotional imbalance. Although the pathological location resides in the large intestine, it is intrinsically related to the five zang-organs. Deficiency of qi and blood, accumulated gastrointestinal heat, and yin-yang imbalance may result in intestinal blockage and failure of turbid qi to descend, thereby inducing constipation.

The Sanjiao qi transformation theory was first systematically proposed by physician Zhao Xianke. He held that the formation and excretion of urine are dominated by qi transformation of the kidney and bladder, and closely regulated by the lung, spleen and other zang-fu organs, laying the theoretical foundation of Sanjiao qi transformation[3].

3. Overview of Sanjiao Qi Transformation Theory

3.1 Connotation of Sanjiao

In the TCM theoretical system, Sanjiao occupies a fundamental position. Anatomically, it divides the human trunk into three functional regions: the Upper Jiao, Middle Jiao and Lower Jiao, which delineate the visceral location, physiological zoning, and the circulation and interaction of qi, blood and body fluids. Normal Sanjiao function ensures unobstructed qi movement and fluid transportation; pathological dysfunction leads to qi stagnation and fluid retention.

3.2 Physiological Functions of Sanjiao Qi Transformation

Sanjiao qi transformation governs the ascent, descent, exit and entry of systemic qi movement, as well as the entire process of body fluid metabolism. Serving as the general passage for qi and water movement, Sanjiao coordinates the lung-heart diffusing and descending function of the Upper Jiao, the spleen-stomach transportation and ascent-descending function of the Middle Jiao, and the kidney-bladder steaming and turbidity-separating function of the Lower Jiao. Via qi transformation, it completes the generation, distribution, metabolism and excretion of qi, blood and body fluids, maintains visceral qi harmony, clear ascent and turbid descent, and regular body fluid circulation. It acts as the core hub of substance metabolism, energy operation and internal-external qi communication of the human body.

4. Pathogenesis of Senile Constipation Under Sanjiao Qi Transformation Theory

4.1 Upper Jiao and Senile Constipation

The lung of the Upper Jiao governs primordial qi and regulates systemic qi generation and movement via respiration. Being interior-exterior related to the large intestine, the lung is pivotal to the occurrence of constipation. The lung controls dispersion and descent, modulates general qi movement, and regulates water passages to participate in whole-body fluid metabolism. Descending lung qi promotes large intestinal conduction and facilitates defecation of waste substances[4]. In elderly individuals, lung qi deficiency causes disordered qi movement and insufficient qi-blood production, leading to intestinal fluid depletion, dry stool and difficult defecation. Moreover, impaired lung qi descent disturbs water regulation, resulting in the accumulation of dampness and phlegm-turbidity, which further induces sticky and unsmooth defecation.

4.2 Middle Jiao and Senile Constipation

The spleen and stomach of the Middle Jiao are the source of qi and blood production. The stomach receives food while the spleen performs transportation and transformation, digesting water and grain into refined nutrients to nourish the whole body. The Middle Jiao also acts as the pivot of qi ascent and descent; physiological spleen ascent and stomach descent maintain visceral harmony. The spleen pertains to Taiyin damp-earth, functioning properly when yang is vigorous; the stomach pertains to Yangming dry-earth, functioning normally when yin fluid is sufficient. Elderly spleen-stomach weakness leads to impaired transportation and transformation, insufficient qi-blood generation, intestinal dryness and disrupted qi ascent-descending, ultimately disturbing systemic qi circulation and triggering constipation.

4.3 Lower Jiao and Senile Constipation

The kidney of the Lower Jiao governs body fluids, opens at the anterior and posterior private orifices, and controls defecation and urination. It is closely correlated with large intestinal conductive function. As the root of all zang-fu organs, the kidney stores genuine yin to nourish visceral tissues and genuine yang to warm the whole body through steaming and qi transformation. Elderly people present inherent visceral hypofunction. Consumption of kidney essence exhausts yin fluid, resulting in intestinal malnutrition and dryness. Declined life-gate fire fails to warm the large intestine, weakening intestinal peristalsis and causing difficult and sluggish defecation.

5. Therapeutic Strategies for Senile Constipation Based on Sanjiao Qi Transformation Theory

5.1 Qi-Supplementing and Intestine-Moistening Therapy for Upper Jiao

Qi-supplementing and intestine-moistening therapy is essential for the TCM management of senile constipation. Most senile constipation belongs to deficiency syndrome, and qi-deficiency constipation should be treated by supplementing qi and moistening intestines[5]. Huangqi Decoction exerts therapeutic effects through multi-target synergies. In the formula, Radix Astragali tonifies lung qi and invigorates the spleen; Semen Cannabis and honey moisten the intestines and relax the bowels; Pericarpium Citri Reticulatae regulates qi and activates the spleen, preventing tonic-induced qi stagnation and unblocking intestinal qi movement. The combined effects of qi propulsion and intestinal lubrication promote smooth defecation and relieve constipation.

5.2 Spleen-Invigorating and Qi-Tonifying Therapy for Middle Jiao

Spleen-invigorating and qi-tonifying therapy is indispensable in treating senile constipation. Insufficient Middle Jiao spleen qi weakens transportation and transformation, disrupts fluid distribution, causes intestinal malnutrition and slow peristalsis, and induces constipation. Clinically, spleen-invigorating and qi-tonifying herbs can restore spleen-stomach function, activate qi-blood generation, normalize fluid distribution to the intestines, improve intestinal peristalsis and alleviate constipation. Buzhong Yiqi Decoction is a classic prescription for this condition. Compatibility of qi-tonifying, blood-nourishing and qi-regulating herbs enables tonification without stagnation and nourishment without greasiness, achieving the effects of tonifying the middle jiao, replenishing qi, ascending yang and lifting collapse, and effectively improving spleen-qi-deficiency type senile constipation[6].

5.3 Kidney-Warming, Essence-Replenishing and Yin-Nourishing Therapy for Lower Jiao

Kidney-warming and essence-replenishing therapy is clinically significant for senile constipation. Modified Jichuan Decoction is commonly applied to warm the kidney, replenish essence, moisten intestines and relax bowels[7]. In the formula, Herba Cistanches warms kidney yang and nourishes essence and blood; Radix Angelicae Sinensis tonifies and activates

blood circulation; Radix Cyathulae tonifies the liver and kidney and guides medicinal effects downward; Fructus Aurantii descends qi and unblocks the intestines to enhance peristalsis; Rhizoma Alismatis drains dampness and eliminates renal turbidity; Rhizoma Cimicifugae ascends clear yang qi.

Kidney yin functions to moisten and nourish. Kidney yin deficiency leads to intestinal malnutrition, dry and hard stool and difficult defecation. Modified Zengye Decoction is widely used for kidney-yin-deficiency senile constipation. The combination of Radix Scrophulariae, Radix Ophiopogonis and Radix Rehmanniae achieves multiple effects: Radix Scrophulariae softens hardness and moistens dryness; Radix Ophiopogonis nourishes yin and generates fluid to lubricate the intestines; Radix Rehmanniae enriches yin fluid. The three herbs jointly nourish yin and moisten dryness to soften hard stool, clear deficient heat and avoid further consumption of body fluids.

6. Typical Clinical Case

An 87-year-old male patient presented with recurrent difficult defecation for 5 years, with defecation once every 4–5 days. He manifested lassitude, short breath, poor appetite, soreness and weakness of the lumbosacral region, pale tongue with white coating, and deep and slow pulse.Diagnosis: Constipation; kidney yang deficiency syndrome.Therapeutic principle: Warm the kidney and replenish essence; moisten intestines to relax bowels.Self-made prescription: Herba Cistanches 20 g, Radix Angelicae Sinensis 15 g, Rhizoma Cimicifugae 12 g, Radix Cyathulae 15 g, Rhizoma Alismatis 15 g, Fructus Trichosanthis 15 g, Rhizoma Dioscoreae 30 g, Radix Glycyrrhizae Preparata 6 g, Semen Pruni 15 g, Semen Coicis 30 g, Radix Rehmanniae 25 g, Semen Cannabis 20 g. Seven doses in total, decocted with water, one dose per day.

Second visit (7 days later): Defecation was obviously improved; tongue and pulse remained unchanged. No other oral or external laxatives were used. Radix Astragali 12 g was added to the original prescription for another 14 doses.

Third visit (14 days later): Defecation normalized to once every 2 days with smoother bowel movement and improved mental status. The patient had no need for glycerine enema, without any adverse reactions, indicating satisfactory therapeutic efficacy.

Case analysis: The patient suffered laborious and time-consuming defecation accompanied by lassitude, poor appetite, lumbosacral soreness and weakness, pale tongue with white coating and deep slow pulse, consistent with Lower Jiao kidney yang deficiency syndrome. The prescription was modified from Jichuan Decoction, supplemented with spleen-invigorating, dampness-draining and blood-activating herbs on the basis of warming the kidney and replenishing essence.

7. Conclusion

Treating senile constipation based on the Sanjiao qi transformation theory fully embodies the holistic concept and syndrome differentiation-based treatment of TCM. By differentiating syndromes according to clinical symptoms, tongue manifestation and pulse condition, physicians can regulate systemic qi movement and body fluid metabolism. Meanwhile, guiding elderly patients to develop healthy living habits can maximize the clinical efficacy for senile constipation.

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