



Clinical thoughts on treatment of reflux esophagitis from *shaoyin* heat transformation

Tianli Li¹, Fenglan Pu², Kai Wang², Guozhen Zhao³, Bo Li³

¹Dongzhimen Hospital, Beijing University of Chinese Medicine, Beijing, China; ²Beijing University of Chinese Medicine, Beijing, China; ³Beijing Hospital of Traditional Chinese Medicine, Capital Medical University, Beijing, China

Correspondence to: Bo Li. Beijing Hospital of Traditional Chinese Medicine, Capital Medical University, Beijing 100010, China.

Email: dr.libo@vip.163.com.

Abstract: Reflux esophagitis (RE) is a common chronic refractory disease, principally manifested as acid regurgitation and scorching sensation. The recurrence of its symptoms has seriously affected the quality of life of patients and their families. For the treatment of this disease, conventional western medicine treatments mainly involve oral administration of acid suppression and gastrointestinal motility drugs. However, there are still some patients with poor efficacy and often need long-term maintenance treatment, which not only brings economic and psychological burden to patients, and long-term medication may cause adverse reactions, such as prolonged application of proton pump inhibitors leading to the occurrence of atrophic gastritis. RE can be classified into “acid vomiting”, “epigastric upset”, “hiccup” in traditional Chinese medicine (TCM). Over the years, valuable experience in treating RE has been accumulated in TCM. Based on long-term clinical experience and inspired by *Treatise on Cold Damage*, Dr. Bo Li first proposed treatment of RE using *HuanglianEjiao* Decoction and *Zhuling* Decoction, and has achieved favorable effect in clinic. Two medical cases were provided for further exchange and discussion. In this paper, the patient’s medical history, condition and laboratory examination were mentioned. Moreover, the TCM diagnosis process and the prescribed TCM were described in detail. Finally, the changes of the patient’s condition and prognosis before and after were recorded.

Keywords: Reflux esophagitis (RE); vigorous fire due to yin deficiency; *Shaoyin* heat transformation; *HuanglianEjiao* Decoction; *Zhuling* Decoction

Received: 12 December 2019; Accepted: 26 May 2020; Published: 30 December 2020.

doi: 10.21037/lcm-19-39

View this article at: <http://dx.doi.org/10.21037/lcm-19-39>

Introduction

Reflux esophagitis (RE) is a disease in which gastric and duodenal contents counterflow into the esophagus and cause esophageal mucosal erosion and ulceration. The typical symptoms are acid regurgitation and scorching sensation. Some patients may also present with post-sternal scorching pain, belching, nausea, and dyspepsia. The recurrence of its symptoms has seriously affected the quality of life of patients and their families.

For the treatment of RE, oral administration of acid suppression and gastrointestinal motility drugs is mainly used in bio-medicine at advantages of fast onset and remarkable effect. However, there are still some patients with poor

efficacy and often need long-term maintenance treatment, which not only brings economic and psychological burden to patients, and long-term medication may cause adverse reactions, such as prolonged application of proton pump inhibitors leading to the occurrence of atrophic gastritis.

According to the clinical manifestations of RE, it can be classified into “acid vomiting”, “epigastric upset”, “hiccup” in traditional Chinese medicine (TCM). Over the years, valuable experience in treating RE has been accumulated in TCM. It is believed that its pathogenesis is counterflow of the stomach qi, with gastric acid or bile upsurging the esophagus, and the treatment strategy is to harmonize the stomach and direct qi downward, and soothe the liver

and rectify the spleen. However, some patients in the clinic did not improve their symptoms after applying this method, but presented with yin deficiency symptoms such as dry mouth and pharynx, heart vexation and insomnia, short yellow urine, red tongue, and scanty tongue coating. Therefore, Dr. Bo Li believes that the stomach is *Yangming* dry earth, although the stomach prefers to dryness and is averse to dampness, it still depends on the stomach yin for moistening, while herbs with rectifying qi are warm and dry in properties, if overused, they will damage the yin fluids. Constant protection of yin fluid is necessary in the treatment, and herbs with rectifying qi cannot be overused.

Based on long-term clinical experience, Dr. Bo Li identified RE as *Shaoyin* heat transformation pattern with the sternal scorching sensation as the prominent symptom, accompanied by the clinical manifestations of yin deficiency resulting in vigorous fire, such as heart vexation and insomnia, dry mouth and throat, afternoon tidal fever, short dark urine, red tongue and scanty tongue coating, and rapid and thready pulse. He believed mood disorders and dietary irregularity as the main causes, and clarified the pathogenesis. In clinic, some patients often have poor mood, leading to liver constraint transforming into fire, further damaging yin due to heat exuberance; others overtake acrid and spicy food in dietary irregularities, resulting in depletion of the stomach fluid and yin insufficiency. In the beginning, the stomach yin is insufficient, and the kidney yin is also deficient and deficiency fire flaming upward over the time, which is named as “*Shaoyin* heat transformation”, which in turn burns the esophagus, scorching sensation behind the sternum can be felt; harasses the heart spirit, heart vexation and insomnia will occur; damages the body fluid and body fluid cannot ascend, dry mouth and pharynx will ensue; shifts heat to the small intestine from the heart, the urine is short and dark, and red tongue and scanty tongue coating, and rapid and thready pulse are indications of yin deficiency. In the treatment of patients with this type of RE, Professor Bo Li mostly adopts the method of treating the root and branch simultaneously. *Shaoyin* deficiency is the root, and heat transformation burning the esophagus, and counterflow of stomach qi are considered as branch. On medication, nourishing *Shaoyin* is the root, and clearing stomach heat and rectifying qi and directing qi downward are the branch.

Shaoyin heat transformation originated from *Treatise on Cold Damage*, originally refers to a person with yin deficiency and yang hypersensitivity contracting external pathogen, which enters *Shaoyin* and transforms into heat in

yang aspect presenting with the symptoms of yin deficiency resulting in vigorous fire. Later, it also refers to kidney yin deficiency and deficiency fire flaming upward. Dr. Bo Li pioneered the use of *HuanglianEjiao* Decoction and *Zhuling* Decoction recorded in *Treatise on Cold Damage* for RE identified as *Shaoyin* heat transformation and obtained a favorable effect in clinical practice.

HuanglianEjiao Decoction stems from Chapter 11 Identification of *Shaoyin* Diseases: Pulses, Patterns/Syndromes, and Treatment in *Treatise on Cold Damage* and records “*Shaoyin* disease, contracted for more than two or three days, there is vexation in the heart and an inability to sleep, *HuanglianEjiao* Decoction governs”. This formula is indicated for insomnia due to *Shaoyin* heat transformation leading to non-interaction between the heart and the kidney. Cheng Wuji said in The “*Treatise on Cold Damage*” Annotated and Explained: “Yang (fire) is surplus, remove it with bitter herbs such as *Huangqin* (*Radix Scutellariae*) and *Huanglian* (*RhizomaCoptidis*), yin fluid is insufficient, supplementation with herbs in sweet flavor is used”. Egg yolk and *Ejiao* (*CollaCoriiAsini*) are sweet used to nourish blood; herbs in sour flavor can astringe and drain, and *Shaoyao* (*Radix Paeoniae*) is sour in flavor, which has the effect of astringing yin and draining pathogenic heat. It can be seen that this formula has the effects of nourishing yin and draining heat, nourishing blood and calming the mind. Modern pharmacological studies suggest that *Huanglian* has a protective effect on ethanol-induced gastric mucosal damage in mice. The mechanism may be related to inhibiting the increase of malondialdehyde content in plasma and gastric mucosa and restoring the activity of superoxide dismutase (1). *Huangqin* and *Baishao* can reduce malondialdehyde content and increase the activity of esophageal superoxide dismutase, increase the plasma levels of gastrin and motilin, reduce plasma vasoactive intestinal peptide level, and enhance oxidation resistance in rat, protect the esophageal mucosa, and increase the lower esophageal sphincter pressure to prevent reflux of gastrointestinal contents to the esophagus (2). When Dr. Bo Li diagnosed the RE identified as *Shaoyin* heat transformation accompanied with heart vexation and insomnia in the clinic, he always prescribed modified *Huanglian Ejiao* Decoction, which is targeted on RE by nourishing yin to treat the root and by draining heat to treat the branch, besides, it can nourish the blood and calm the mind and restore interaction between the heart and the kidney to treat insomnia, and often obtained a great effect.

Zhuling Decoction originates from Identification

of *Shaoyin* Diseases: Pulses, Patterns/Syndromes, and Treatment in *Treatise on Cold Damage* and records “*Shaoyin* disease, there has been diarrhea for six or seven days, if there is coughing and vomiting, thirst, heart vexation and an inability to sleep, *Zhuling* Decoction governs.” This formula is mainly for *Shaoyin* heat transformation and mutual binding of water and heat. In the formula, *Zhuling* (*Polyporus*) as the chief herb, specializes in percolating and draining water with bland herbs. *Zexie* (*RhizomaAlismatis*) and *Fuling* (*Poria*) are selected as the deputy herbs, which are sweet and bland in flavor and can help *Zhuling* to percolate and drain water. Besides, *Zexie* is cold in property used to drain heat, and *Fuling* is used to calm the mind, and restore interaction between the heart and the kidney together with *Zhuling* entering the kidney. *Huashi* (*Talcum*), an assistant herb, is sweet and cold in properties used to clear heat and disinhibit water without damaging yin. *Ejiao* can nourish yin and moisten dryness, which can not only nourish the damaged yin, but also prevent the herbs with actions of percolating and draining water to damage yin and blood. Modern pharmacological research suggests that *Zhuling* and *Zexie* both have certain anti-inflammatory effects (3,4), and have repairing effects on esophageal mucosa erosion and ulcers. *Fuling* can enhance the barrier function of gastric mucosa and reduce the secretion of gastric acid (5), thereby alleviating the symptoms of RE. Professor Bo Li treats RE with *Shaoyin* heat transformation with short dark urine, modified *Zhuling* Decoction is used. It can nourish yin and drain heat to treat RE, but also can disinhibit water, nourish yin, clear heat to treat short dark urine with a favorable effect.

We present the case report in accordance with the CARE reporting checklist (available at <http://dx.doi.org/10.21037/lcm-19-39>).

Case presentation

All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee(s) and with the Helsinki Declaration (as revised in 2013). There was no informed consent prepared in advance in the clinic, and it's been so long that we can't get in touch with the patients. Instead, The patients had given oral consent.

Typical case I

Zhu, female, 66 years old, first visit in November 2018.

The patient had repeated epigastric discomfort with acid reflux and heartburn for more than 10 years, worse after meals and at night. The patient took proton pump inhibitors for a long time, but the effect was not satisfied. In 2014, a gastroscopy at a three-level hospital showed RE (A level), and loose cardia. She was usually irritable, thought a lot, and had recurrent urinary tract infections.

Current symptoms: she had gastric discomfort accompanied by acid reflux, sternal burning sensation, worse at night and restlessness. Her appetite was normal, and presented with dry mouth and throat, dark urine and painful urination, loose stool with undigested vegetable leaves, once per day. Her tongue was red and tongue coating was dry and scanty, and pulse was floating and slippery.

Pattern identification: *Shaoyin* heat transformation, non-interaction between the heart and the kidney, and mutual binding of water and heat.

Treatment strategy: nourish yin and clear heat, calm the mind and disinhibit water.

Formula: modified *HuanglianEjiao* Decoction and *Zhuling* Decoction.

Prescription:

Huanglian 6 g, *Ejiao* (melted in decoction) 10 g, egg folk 2 pieces (add and mix with warm decoction), *Huangqin* 10 g, *Baishao* 15 g, *Zhuling* 15 g, *Fuling* 15 g, *Zexie* 10 g, *Huashi* (decoct while wrapped) 10 g, *Chaihu* (*Radix Bupleuri*) 12 g, *Fabanxia* (*RhizomaPinelliaePraeparatum*) 6 g, *Shudibuang* (*Radix RehmanniaePraeparata*) 15 g, *Shanzhuyu* (*FructusCorni*), *Sharen* (*FructusAmomi*; added later) 6 g, *Taizishen* (*Radix Pseudostellariae*) 15 g, *Baizhu* (*RhizomaAtractylodisMacrocephalae*; prepared) 15 g, *Zhishi* (*FructusAurantiiImmatursus*) 10 g, *Chenpi* (*PericarpiumCitriReticulatae*) 10 g, and *Zhigancao* (*Radix et RhizomaGlycyrrhizaePraeparata cum Melle*) 10 g.

Six packs, in decoction, one pack per day. One in the morning and one at night.

Second visit:

The second diagnosis: The symptoms were improved 80% after taking the decoction. No acid reflux or heartburn occurred during the medication. Western drugs have been stopped. Currently, her temperament was more stable than before. Her thirst was alleviated, but there was still painful urination. The stool was in shape without undigested food. Her sleep quality was improved. The tongue was red and tongue coating was still scanty, and the pulse was slippery.

Xiakucao (*Spica Prunellae*) 10 g was added to the first visit for 14 packs. All symptoms were alleviated in this patient after follow-up and Chinese and Western medicines were

stopped without recurrence.

Comments

The patient is usually irritable and easily to get angry. The liver qi is excessive, and transforms into fire. Exuberant heat damages yin, involving the kidney for a long time, resulting in kidney yin deficiency and deficiency fire inflaming upward, which is identified as *Shaoyin* heat transformation. Deficiency fire burns the esophagus, so you can see the burning sensation behind the sternum; deficiency fire harasses the heart spirit upward and leads to non-interaction between the heart and the kidney, heart vexation and insomnia will occur; heart heat transforms into the small intestine and water and heat bind together, dark urine and painful urination ensue; heat scorching pharynx and throat depletes body fluid, and dry mouth and throat will occur; the liver qi over-restricts the spleen, weak function of the spleen and stomach failing to transform and transport, and loose stool is accompanied.

This case is RE due to *Shaoyin* heat transformation. The treatment should focus on the root and branch simultaneously. Nourishing yin is the root and draining heat and directing qi downward are the branch. Because the patient presented with heart vexation and insomnia due to non-interaction between the heart and the kidney, HuanglianEjiao Decoction is used with the actions of nourishing yin and draining heat, and restoring interaction between the heart and the kidney. Besides, there is mutual binding of water and heat resulting in dark urine and painful urination, so Zhuling Decoction is combined with the effects of disinhibiting water, nourishing yin, and clearing heat. Combination of the two formulae enhances the effect of nourishing yin and draining heat. Besides, *Shudibuang* and *Shanzhuyu* are reinforced in nourishing yin. *Sini* Powder has the effect of soothing the liver and rectifying the spleen to resolve the over-restriction of the spleen from the liver. Herbs including *Taizishen*, *Baizhu*, *Chenpi*, *Sharen*, and *Fabanxia* with the actions of fortifying the spleen and dissolving dampness normalize the stool. All these herbs obtain effects of nourishing yin and draining heat, and fortifying the spleen and dissolving dampness, targeting on the root of *Shaoyin* heat transformation, and all the symptoms are cured.

Typical case II

Zhang, female, 71 years old, first visit on December 12,

2019.

The patient suffered from epigastric pain accompanied by acid reflux and heartburn for more than two years, worse at night. One year ago, she was diagnosed as chronic non-atrophic gastritis with erosion using gastroscopie in a three-level hospital. The pathology showed intestinal metaplasia of the stomach body and negative helicobacter pylori. She thought a lot and had a poor sleep, and took two tablets (7.5 mg/tablet) zopiclone before going to sleep for a long time.

Currently, she sometimes had gastric pain and distension, scorching sensation of the sternum, dry mouth, tidal fever, poor sleep, slightly loose stool, and normal urination. The tongue was pale and tongue coating was white with marked teeth, and the pulse was wiry and slippery.

Pattern identification: *Shaoyin* heat transformation, and complex cold and heat.

Treatment strategy: nourish yin and clear heat, and warm the spleen and dissipate cold.

Formula: modified *HuanglianEjiao* Decoction and *ChaibuGuizhiGanjiang* Decoction.

Prescription: *Huanglian* 6 g, *Ejiao* 10 g, egg folk 2 pieces (add and mix with warm decoction), *Huangqin* 10 g, *Baishao* 15 g, *Chaibu* 10 g, *Guizhi* (*RamulusCinnamomi*) 5 g, *Ganjiang* (*RhizomaZingiberis*) 5 g, *Tianhuafen* (*Radix Trichosanthis*) 15 g, *Duanmulu* (calcined *Concha Ostreae*; decocted first) 30 g, *Duanlonggu* (calcined *FossiliaOssisMastodi*; decocted first) 30 g, *Wuzhuyu* (*FructusEvodiae*) 3 g, *Suanzaoren* (*Semen ZiziphiSpinosa*) 20 g, *Fushen* (*SclerotiumPoriaeParadidicis*) 15 g, *Chenpi* 10 g, *Chuanmouxi* (*Radix Cyathulae*) 15 g, *Shengdibuang* (*Radix Rehmanniae*) 10 g, *Jiegeng* (*Radix Platycodonis*) 10 g, and *Zhigancao* 10 g.

Seven packs, in decoction, one pack daily, one in the morning and one at night.

Second consultation: after taking former prescription, symptoms such as acid reflux and heartburn were greatly relieved, the stool was a bit drier than before, and the sleep quality was obviously improved. Zopiclone has been reduced to one tablet/night. There was still gastric pain and distension, and much pensiveness. The tongue was pale and tongue coating was thin and white, and the pulse was wiry and slippery. In the original prescription, the dosage of *Huanglian* and *Baishao* was added to 10 g and 20 g, respectively. Follow-up was conducted after several months of stopping taking the decoction, the patient's symptoms of acid reflux and heartburn were markedly reduced, the gastric pain and distension disappeared, sleep improved, and zopiclone was reduced to half a tablet/night.

Comments

The patient usually thought a lot with unsmooth circulation of emotion, which will transform fire and damage yin due to long-term liver qi stagnation, and then lead to kidney yin deficiency and upward flaming of deficiency fire, this is identified as a *Shaoyin* heat transformation and complex cold and heat pattern. Yin deficiency leads to tidal fever; deficiency fire scorching the esophagus results in the burning sensation of the sternum; deficiency fire harassing the heart spirit and non-interaction of the heart and kidney causes vexation and insomnia; heat scorching pharynx and throat, with fluid damage leads to dry mouth; Deficiency cold of the spleen and stomach, and obstruction of qi activity causes gastric pain and distension; dysfunction of transporting and transforming leads to loose stool.

This case is a RE identified as a *Shaoyin* heat transformation and complex cold and heat pattern. Accompanied by vexation and insomnia due to non-interaction between the heart and the kidney, *HuanglianEjiao* Decoction with the actions of nourishing yin and draining heat, and calming the mind is used. *ChaibuGuizhiGanjiang* Decoction is used in gallbladder heat and spleen cold, and inhibited pivot of Shaoyang, and failure to nourish body fluids presenting with bad emotion, loose stool, and dry mouth, etc. Combination of the two formulae and treatment in both cold and heat normalize the movement of ascending and descending. Combination of Wuzhuyu and Huanglian is *Zuojin* Pill, applicable for gastric pain and distension and acid regurgitation. *Suanzaoren* and *Fushen* can assist *HuanglianEjiao* Decoction in calming the mind. Combined use of cold and heat herbs in this prescription, and nourishing yin without worsening the spleen cold and warming spleen without further damaging kidney yin, based on these features, the prescription is reasonable, so all the symptoms can be cured.

Acknowledgments

Funding: None.

Footnote

Provenance and Peer Review: This article was commissioned by the editorial office, *Longhua Chinese Medicine* for the series “Holistic Traditional Chinese Medicine: the synergy of spleen and stomach in health”. The article has undergone external peer review.

Reporting Checklist: The authors have completed the CARE reporting checklist. Available at <http://dx.doi.org/10.21037/lcm-19-39>

Conflicts of Interest: All authors have completed the ICMJE uniform disclosure form (available at <http://dx.doi.org/10.21037/lcm-19-39>). The series “Holistic Traditional Chinese Medicine: the synergy of spleen and stomach in health” was commissioned by the editorial office without any funding or sponsorship. The authors have no other conflicts of interest to declare.

Ethical Statement: The authors are accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved. All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee(s) and with the Helsinki Declaration (as revised in 2013). There was no informed consent prepared in advance in the clinic, and it's been so long that we can't get in touch with the patients. Instead, the patients had given oral consent.

Open Access Statement: This is an Open Access article distributed in accordance with the Creative Commons Attribution-NonCommercial-NoDerivs 4.0 International License (CC BY-NC-ND 4.0), which permits the non-commercial replication and distribution of the article with the strict proviso that no changes or edits are made and the original work is properly cited (including links to both the formal publication through the relevant DOI and the license). See: <https://creativecommons.org/licenses/by-nc-nd/4.0/>.

References

1. Liao ZH, Zhong LY, Zhang LX. To explore the protective effects and mechanisms of *Coptischinensis* and *Curcuma chinensis* on gastric mucosal injury induced by ethanol. *Journal of Jiangxi University of Traditional Chinese Medicine* 2012;24:65-7.
2. Liu XH, Ma YH, Fu YL. Effects of Huangqin Decoction on oxidative stress and gastrointestinal hormones in rats with reflux esophagitis. *Lishizhen Medicine and MateriaMedica Research* 2011;22:1778-80.
3. Wang TY, Zhang FF, Ren YY, et al. Research progress on the chemical constituents and pharmacological effects of

- Polyporiacinerea. Shanghai Journal of Traditional Chinese Medicine 2017;51:109-12.
4. Xing ZZ, Chen W, Zeng Y. Research progress on the chemical components and pharmacological effects of *Alismavariabilis*. China Medical Herald 2017;23:75-8.
 5. He W, Shu XF, Xiong YL, et al. Study on the effect of Fuling Decoction on gastric mucosal damage. Chinese Journal of Experimental Traditional Medical Formulae 1995;1:22-4.

doi: 10.21037/lcm-19-39

Cite this article as: Li T, Pu F, Wang K, Zhao G, Li B. Clinical thoughts on treatment of reflux esophagitis from *shaoyin* heat transformation. Longhua Chin Med 2020;3:23.