

Professor Du Xiaoquan's Experience in Treating Acid Reflux

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Abstract: Acid regurgitation is a common symptom in digestive system diseases which is mainly caused by emotions, diet, and other factors. It is related to gastroesophageal reflux disease, chronic gastritis, and other diseases in Western medicine. According to modern medical research, acid reflux is related to *Helicobacter pylori* (HP) infection, weak effect of anti-reflux barrier, decreased clearance of esophageal acid, dysfunction of esophageal mucosal barrier, strong stimulation of reflux on esophageal mucosal wall, and other factors [1]. It can be divided into four types which are heat, cold, food stagnation, and yin deficiency. It is often accompanied by vomiting, heartburn, stomachache, and other symptoms. Clinically, it is a mixture of cold and heat, as well as excess and deficiency. Professor Du's self-made method of "first soothing, second reducing, and third harmonizing" (soothing liver and stomach, relieving stomach qi, and neutralizing stomach acid) is used to treat both, symptoms and the root causes. The commonly used prescriptions are left-running metal pill, cuttlefish bone and fritillaria powder, calcined ark shell, oyster shell, etc.

Keywords: Acid regurgitation; Stomach; Cold

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1. Etiology and pathogenesis

Pantothenic acid is pantothenic acid water and acid water which is spit out from the mouth is called acid spitting while acid water that regurgitates to the throat followed by swallowing is called swallowing acid. In modern times, acid regurgitation refers to the syndrome of stomach acid regurgitation. Modern practical Chinese medicine stated that in order to make acid preparation and relief of stomach analgesia, treat excessive stomach acid and physical weakness. It can be seen that acid regurgitation is related to "evil" heat. Swallowing acid in Jing Yue's complete work stated that it is not as close as spitting acid. It is not in the upper stomach duct but between the middle Jiao and stomach duct. It has been pointed out that the location of acid vomiting is in the stomach. "Four heart method" of swallowing acid stated that swallowing acid belongs to the liver where the Yang in Yin and acid in Yin. Although it is divided into the cold and hot end, in short, the treatment of liver is fundamental. It is considered that acid swallowing involves the liver and can be divided into two types: cold and heat. Swallowing acid in "Prolonging Life and Preserving the Origin" stated, "If the food is hot, it is easy to be acid. If one says that it is cold to spit out acid, one may be mistaken. It is because damp heat is on the appetite. When food goes into the stomach, it is depressed by damp heat and cannot be eaten, so one would pretend to swallow acid." Acid regurgitation is related to damp heat and food accumulation. Professor Du believes that modern people have irregular diet, high levels of pressure in life, emotional tension, liver and spleen damage, loss of catharsis of the liver, fire syndrome from depression, and cross invasion of stomach heat-induced acid reflux. Cold syndrome is mainly caused by cold, wanton eating, or deficiency of spleen and stomach Yang, as well as endogenous cold dampness.

Food stagnation type is caused by improper diet and damage to the spleen and stomach. Yin deficiency type is eating spicy, fragrant, and dry products, or heat type regurgitation that lasts for a long time which does not heal, transforming into fire and injuring the Yin.

2. Analyzing special prescriptions and drugs

2.1. Left-running metal pill

Left-running metal pill comprises of *Coptis chinensis* and *Evodiae fructus*. *Coptis chinensis* which is cold can clear the heart, liver, and stomach qi. *Evodia fructus* is spicy, bitter, and warm. It enters the meridians of the liver, spleen, stomach, and kidney. First, being spicy can orderly reach the liver qi. Second, bitter helps *Coptis* warm down the stomach qi. Third, it constraints *Coptis chinensis*' bitter cold. Fourth, it leads *Coptis* into the liver meridian. The combination of cold and heat can clear the liver and stomach, reduce nausea, make acid, and relieve pain. It is suitable for acid reflux with heat in the liver and stomach accompanied by fullness in the chest and hypochondrium, dry mouth, and bitter mouth.

2.2. Cuttlefish bone and fritillaria powder

Cuttlefish bone and fritillaria powder are made from cuttlebone, and *Bulbus Fritillariae Thunbergii*. Cuttlebone tastes salty and astringent, slightly warm, and is able to get into the liver and kidney. Recent studies have shown that the polysaccharide of cuttlebone can significantly increase the pH value of gastric juice in mice, increase the epidermal growth factor and platelet-derived growth factor in the blood of mice with ulcerative colitis, reduce the expression of TNF- α , alleviate inflammation, promote ulcer tissue healing, and improve the defense ability of gastric mucosa against irritants ^[2]. Cuttlebone has a strong ability to inhibit acid which is suitable for acid reflux accompanied by hematemesis, hematochezia, etc. *Bulbus Fritillariae Thunbergii* is bitter and cold in which it can enter the heart, lungs, stomach, and liver channels. Shandong Chinese Herbal Medicine Manual stated that for acid, detoxification, and stomachache, recent studies have shown that *Bulbus Fritillariae Thunbergii* can relieve pain and prevent ulcers ^[3].

2.3. Ark shell and oyster

Ark shell is pungent and salty in taste, flat in nature, and belongs to the lungs, spleen, stomach, and liver channels. Shandong Chinese Herbal Medicine Manual stated, "It makes acid to relieve pain and cures ulcers." Modern pharmacological studies have shown that the beneficial elements for the human body significantly increase after calcination whereas the harmful elements decrease ^[4]. Recent studies have shown that ark shell can significantly reduce the ulcer index of gastric mucosa and increase the pH value of gastric juice ^[5]. Professor Du termed it a broad-spectrum antacid in which the mucinous glue can protect the gastric mucosa, speed up the healing of the ulcer surface, and inhibit HP. It is similar to the gastric mucosal protective agent in Western medicine. Oysters taste salty and they are slightly cold. They get into the liver, gallbladder, and kidney. Modern practical Chinese medicine stated, "In order to make acid preparation and relief of stomach analgesia, treat excessive stomach acid and physical weakness." Modern pharmacological research have found that oysters contain calcium carbonate, calcium phosphate, trace elements, and other ingredients ^[6]. Studies have shown that the content and decocting rate of effective ingredients in calcined calcium carbonate significantly increase after calcination of calcium carbonate ^[7].

3. Treatment in the method of "first soothing, second reducing, third harmonizing"

3.1. Heat type

This is when there is a burning sensation at the back of the gastric cavity and sternum, the mouth feels dry

and bitter while the tongue is red with yellow fur, string-like pulse, and so on. Left-running metal pill is used to soothe the liver and clear the stomach. Commonly used are turmeric, Szechwan Chinaberry fruit, and other cold, soothing liver qi-regulating drugs with cold stomach drugs such as *Folium eriobotryae* and ruddle. If acid reflux is intense, calcined ark shell can be added.

3.2. Cold type

This is when there is reflux of clear acid water, stomach and limbs are cold, narrow stools, pale tongue with thin white fur, slow pulse, etc. Costus root and Amomum Six Gentlemen Decoction are used to warm the cold. *Cyperi rhizoma*, perilla stem, and other warm products are used to soothe the liver and regulate qi while *Pinelliae rhizoma*, *Flos Inulae*, and agalloch warm down the stomach qi. Cuttlefish bone and fritillaria powder uses cuttlebone or left-running metal pill with more *Evodiae fructus* to make acid. Especially, calcined ark shell with spicy and warm *Pinelliae rhizoma* are used to reduce the adverse reactions and make acid by the stomach.

3.3. Food stagnation type

This is when there is unclean diet, sour belching, loss of appetite, unpleasant stools, thick and greasy coating of the tongue, slippery pulse, etc. Harmony-Preserving Pill is commonly used to eliminate food stagnation and restrain acid. *Radix Bupleuri* and raw malt are used to soothe the liver and stomach. *Radix Bupleuri* can remove putridity and regenerate freshness. *Raphani Semen* can lower stomach qi and dissipate food accumulation. If there is food stagnation and heat-heavy, *Fritillaria Thunbergii* is used whereas if there is food stagnation and cold-heavy, cuttlebone is used.

3.4. Yin deficiency type

This is when there is epigastric pain, hunger, dry mouth, dry throat, dry stool, red tongue, less fur, fine pulse, etc. Stomach-Boosting Decoction is often used to nourish Yin, clear heat, and for the stomach. *Radix Paeoniae Alba*, *Fructus Citri Sarcodactylis*, and *Fructus Mume* are used to soothe the liver and regulate qi. *Fructus Mume* and *Radix Paeoniae Alba* are sour, astringent, and slightly cool. They nourish the Yin and move into the liver to collect Yin so that the liver Yin is solid, qi is smooth, and the liver depression which can transform into heat to hurt Yin is relieved, that is the method of treating gastric acid with these herbs. Loquat leaves and bamboo shavings can reduce stomach dryness while raw oysters can nourish the Yin, clear heat, and produce acid. Left-running metal pills are not suitable in these cases.

4. Conclusion

Professor Du believes that the acid should not be confined to heat, nor should acid be restrained blindly. When combining symptoms, syndrome differentiation, and treatment types, it is not only to cure the root causes of the liver and stomach but also, to treat symptoms with special acid drugs in order to eliminate symptoms. Left-running metal pill can be used for both cold and heat types, and the proportion of two drugs can be adjusted flexibly according to the amount of cold and heat. Cuttlefish bone and fritillaria powder are mild and widely applicable, especially for acid reflux accompanied by gastrointestinal mucosal erosions, ulcers, etc. Oysters are suitable for acid regurgitation in the yin deficiency and heat type. Calcined ark shell is a broad-spectrum antacid. Long-term acid regurgitation easily damages the stomach and esophagus which results in other problems. Hence, it should be paid attention to. Professor Du emphasizes on daily care and often tell patients to keep warm while taking a light diet.

Disclosure statement

The authors declare that there is no conflict of interest.

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