

INFANTILE COUGH

THE EXPERIENCE OF PROFESSOR ZHANG ZHENYU IN TREATING INFANTILE COUGH CAUSED BY EXOGENOUS PATHOGENS

by Zhang Qingxiang and Lu Yubin

Professor Zhang Zhenyu is a famous Chinese TCM specialist. He is also a tutor of doctorate degree students and has been engaged in teaching and clinical work for more than 50 years. Being skilled in the treatment of difficult medical problems in internal medicine, gynaecology and paediatrics, he is well-known throughout China. The following is an introduction to his experience in treating infantile cough caused by exogenous pathogens with his own formula *Sang Bo Qing Xuan Tang* [Lung Heat Clearing and Dispersing Decoction with Sang Ye (*Folium Mori Albae*) and Bo He (*Herba Menthae*)].

Basic Ingredients

Sang Ye (*Folium Mori Albae*) 6g
 Bo He (*Herba Menthae*) 5g
 Jie Geng (*Radix Platycodi Grandiflori*) 5g
 Chen Pi (*Pericarpium Citri Reticulatae*) 4g
 Zi Wan (*Radix Asteris Tatarici*) 5g
 Chuan Bei Mu (*Bulbus Fritillariae Cirrhosae*) 5g
 Fried Zhi Ke (*Fructus Aurantii*) 4g
 Niu Bang Zi (*Fructus Arctii Lappae*) 4g
 Bai Shao (*Radix Paeoniae Lactiflorae*) 4g
 Gan Cao (*Radix Glycyrrhizae Uralensis*) 3g
 To be decocted in water for oral use, one dose daily.

Clinical Modifications

- For severe cough, add Qian Hu (*Radix Peucedani*) and fried Xing Ren (*Semen Pruni Armeniaca*).
- For yellow and thick sputum, add Zhu Ru (*Caulis Bambusae in Taeniis*).
- For white and watery sputum, add Ban Xia (*Rhizoma Pinelliae Ternatae*) fried with ginger).
- For dry cough without sputum, add Mai Men Dong (*Tuber Ophiopogonis Japonici*).
- For cases with stuffy nose, nasal discharge or sneezing, add Jing Jie (*Herba seu Flos Schizonepetae Tenuifoliae*) and Chan Tui (*Periostracum Cicadae*).
- For cases with fever and dry mouth, add Jin Yin Hua (*Flos Lonicerae Japonicae*), Lian Qiao (*Fructus Forsythiae Suspensae*) and Ban Lan Gen (*Radix Isatidis seu Baphicacanthi*).
- For cases with sore throat, add Gan Lan (*Fructus Canarii*) and Dan Zhu Ye (*Herba Lophatheri Gracili*).
- For cases with headache, add Ju Hua (*Flos Chrysanthemi Morifolii*).

- For cases with frequent attack of exogenous pathogens, add Ren Shen (*Radix Ginseng*) and Fu Ling (*Sclerotium Poriae Cocos*).

Pathogenesis

According to TCM theory, children are not fully developed and their zangfu are still tender, so their defensive ability is poor and thus they are susceptible to attack by exogenous pathogens. Although diseases caused by exogenous pathogens can be seen in any season of a year, they mostly attack children in the winter or autumn which are seasons with cool or cold and variable weather. Professor Zhang believes that as a result of improvement in living conditions, children tend to wear more clothes in winter and autumn and eat more nutritious food, so they are predisposed to a more yang condition that is likely to produce heat. Furthermore compared with their yin, the yang of children is congenitally more predominant. As a result, pathogenic cold attacking children will mostly transform into heat. In addition, although there is the saying that all the zangfu can cause cough, the Lung is the main organ responsible for occurrence of cough. This is because that the Lung dominates the exterior of the human body, opens into the nose, is in charge of ascending and descending and is intolerant to both heat and cold pathogens. If exogenous pathogens attack the Lung, its ascending and descending function will be impaired. As a result of the upward flow of Lung qi there is cough; as a result of consumption of Lung-fluid by pathogenic heat, there is dryness of the mouth and throat; as a result both of the failure of Lung qi to regulate water metabolism and of the heat in the Lung which scorches the fluids retained in the Lung, there is expectoration of yellow and thick fluid.

Analysis of Ingredients

Failure of the Lung qi to disperse and descend serves as the main pathogenesis of cough, so the main therapeutic method is to facilitate the flow of the Lung qi to disperse pathogens. In the clinic, infantile cough is mostly caused by attack of wind-heat, so the treatment should be aimed at clearing away heat, facilitating the flow of Lung qi, dissolving phlegm and relieving cough. In the formula, Sang Ye (*Folium Mori Albae*) and Bo He (*Herba Menthae*), which are pungent in taste and cool in nature, function to clear heat, disperse the pathogen, facilitate the flow of Lung qi and

relieve cough, and serve as the monarch drugs. As the assistant drugs, Niu Bang Zi (*Fructus Arctii Lappae*) functions to clear heat and benefit the throat, Jie Geng (*Radix Platycodi Grandiflori*) to facilitate the flow of Lung qi to relieve cough, Chuan Bei Mu (*Bulbus Fritillariae Cirrhosae*) to dissolve phlegm to relieve cough, Zi Wan (*Radix Asteris Tatarici*) to moisten the Lung to dissolve phlegm, and Zhi Ke (*Fructus Aurantii*) to help descend qi, soothe the flow of qi in the chest and dissolve phlegm. The combination of Jie Geng (*Radix Platycodi Grandiflori*) and Zhi Ke, which are opposite in their properties of movement (ascending and descending respectively), can regulate the ascent and descent of Lung qi. Bai Shao (*Radix Paeoniae Lactiflorae*) is used to astringe yin and promote fluid and Gan Cao (*Radix Glycyrrhizae Uralensis*) is used to clear heat, resolve toxicity and harmonise the functions of the other ingredients.

The Lung is a 'tender organ' that is likely to be attacked by pathogens, but this also means that disorders of the Lung can be treated successfully in a short time. So the drugs adopted are mostly pungent in taste and cool in nature and can help to clear heat and disperse pathogens. What is more, the dosages of these drugs are mild. As a whole, this formula can both eliminate pathogens by clearing heat and dispersing wind and protect the vital qi by astringing yin and promoting production of fluid. It can both help the ascent and descent of Lung qi and lower the upward rebellion of the Lung to dissolve phlegm and stop cough. This is why this formula is so effective for cough in infantile common cold, acute tonsillitis, acute pharyngitis and acute bronchitis marked by attack of wind-heat on the Lung.

Typical Case

The patient is a five year old girl who sought medical care after having a cough for four days due to exposure to cold. She originally presented with fever and cough, but although an intravenous penicillin drip caused the fever to subside, she still suffered from constant cough which was more severe in the morning and before sleep, white and thick sputum, chest distress, dry and sore throat, red tongue tip with a thin and yellow coating and a rapid pulse. The diagnosis was failure of Lung qi to disperse due to attack of wind-heat. The treatment was aimed at clearing heat, facilitating the flow of Lung qi, dissolving phlegm and relieving cough. The formula applied was *Sang Bo Qing Xuan Tang* with Ban Xia (*Rhizoma Pinelliae Ternatae*) 4g added, to be decocted in water for oral use, one dose daily. After 2 doses, the cough was greatly relieved and the sputum less pronounced. The Ban Xia was removed from the prescription and two more doses were prescribed. After that, the cough was completely relieved and the other symptoms also disappeared.

Zhang Qingxiang and Lu Yubin work at Shandong University of Traditional Chinese Medicine.