Swallowing disorder occurs in Parkinson’s disease and may be involved in pneumonia, the most frequent cause of death in Parkinson’s disease. Previous research has shown that Banxia Houpo Tang (BHT), a traditional Chinese medicine (commonly known in English as Pinellia and Magnolia Combination), improved the swallowing reflex, a respiratory defense mechanism, in patients with cerebrovascular disorders.

This formula is traditionally used in Chinese medicine to treat a syndrome known as “plum pit qi” which refers to a sensation of something being stuck in the throat when, in fact, there is nothing there. The person tries to swallow, but there is no change in the sensation. It is known in Western medicine as globus hystericus which literally means a lump due to hysteria. In both Chinese and Western medicine, this syndrome is thought to arise from anxiety and in Chinese medicine, it is described as a problem of phlegm accumulation. Based on this background, Japanese doctors have considered that the formula might be useful in treating other disorders of the throat such as the one in this study. In this paper, the authors discuss their study of BHT for improving the swallowing reflex in patients with Parkinson’s disease.

BHT consists of pinellia tuber (Pinellia ternata), hoelen (Poria cocos), magnolia bark (Magnolia obovata), perilla herb (Perilla frutescens), and ginger rhizome (Zingiber officinale). BHT is a potentially beneficial therapy since treatments for dysphagia (difficulty in swallowing) in Parkinson’s disease are lacking. A marked delay of the swallowing reflex is noted in aspiration pneumonias (pneumonia caused by one of three syndromes: direct aspiration of chemicals toxic to the lungs, mechanical obstruction of the lower airway, or most commonly, bacterial infection of the lower airways). In earlier research, BHT improved the swallowing reflex in patients with aspiration pneumonia.

In the current study, 28 patients with Parkinson’s disease (16 males, 12 females) were assessed for swallowing reflex and the concentration of substance-P in their saliva before and after four weeks of BHT therapy. The Parkinson’s disease patients were divided into two
groups: 22 patients took BHT (PD BHT+ group) while six received lactate (PD BHT-). Both groups were compared with a cohort of five age-matched healthy controls. Immunocompromized patients were excluded from the study. All patients had received levodopa therapy and all could either eat by themselves or eat with assistance.

PD BHT+ patients and healthy controls were given 4.5 grams of BHT extract in 1.5 g units, taken 30 minutes prior to meals three times per day (t.i.d) for four weeks. Blinded examiners measured the swallowing reflex before and after the treatment period. A bolus of one mL distilled water was injected into the throat to induce the swallowing reflex while the subjects lay in the supine position. The swallowing reflex was assessed on the basis of the latency time of response. Electromyographic activity (electric activity of muscles) was used to identify swallowing.

The mean Hoehn and Yahr (H-Y) score changed from 3.66 +/- 0.98 sec before BHT treatment to 2.27 +/- 0.54 sec (p<0.0001) after treatment. (Swallowing times were analyzed using the paired t-test and correlation of reflex time with H-Y scores was estimated using Spearman’s rank test.) However, the substance-P concentration in saliva did not change significantly after BHT therapy. Therefore, the relationship between substance-P concentration and the mechanism of the swallowing reflex improvement by BHT is still unknown. Since the safety and clinical use of BHT have already been documented, the researchers conclude that it is a promising candidate for the treatment of swallowing disorder in Parkinson’s disease patients.

This paper provides not only information on the potential efficacy of BHT for swallowing disorders in Parkinson’s disease patients, but, in addition, research on the effects of this herbal remedy may help to identify biochemical pathways involved in swallowing disorders. Speculation on putative structure/function relationships (i.e., biological activity, viz. bioactive compounds found in the component plants of BHT) would have been interesting and useful. Although current understanding of the role of the biochemistry of swallowing dysfunction is limited, dopaminergic stimulation (i.e., stimulation of the neurotransmitters dopamine) presumably plays a role in parkinsonian swallowing dysfunction.

—Alondra Oubre, Ph.D.