

## Kampo Medicine - Current Research

### *Effect of Kakkontokasenkyushin'i on Sinobronchial Syndrome*

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Sinobronchial syndrome (SBS) is pathological changes combined with upper respiratory tract chronic sinusitis, lower respiratory diffuse panbronchiolitis (DPB) and bronchiectasis. There are various views of the etiology, which, however has not clearly verified. It is conceivable that some decreased immune function and the ability to defend against upper respiratory infections may exist. Advanced respiratory inflammation causes progression of bronchiectasis and chronic respiratory impairment. There is Kartagener's syndrome, which is a special type of clinical condition that involves not only sinusitis but also chronic cough, sputum and shortness of breath. It is generally treated with a long-term administration of Erythromycin in small doses (macrolide therapy). The use of macrolide therapy shows excellent prognoses and reduces severe cases to a few. However, some patients do not respond to this type of therapy and quite a number of these patients desire Kampo use. There are case reports for such cases as follows:

#### Report by Egashira

Egashira, et al. administered a combination treatment to 20 patients with sinobronchial syndrome refractory to conventional treatments using the extract (7.5g/day) of *kakkontokasenkyushin'i* (average age 57.8, upper respiratory tract empema, lower respiratory tract chronic bronchitis -13 patients, bronchiectasis-2, and diffuse panbronchiolitis - 5).

Coughing was reduced in many of the patients. Firstly, nasal discharge and nasal congestion markedly ameliorated and subsequently symptoms of the lower respiratory tract as well as laboratory

findings such as CRP levels and pulmonary functions improved. As a result, improvements were obtained in cough, phlegm, breathing difficulty, nasal congestion, nasal discharge, and postnasal drip. With reduced dosing of the combination drug, the overall effect was "marked improved" in 4 patients, "moderately improved" in 8 and "slightly improved" in 7. In the markedly improved patients with DPB, who used Erythromycin concomitantly, improvements were also clearly manifested in the symptoms of the upper respiratory tract and x-ray CT images of the lung fields. For 7 patients with Erythromycin-refractory sinobronchial syndrome, *kakkontokasenkyushin'i* was additionally used, resulting in improvements in not only the symptoms of sinusitis but also respiratory symptoms, and respiratory functions.

#### Report by Kato, et al.

Kato, et al. administered the extract, as a combined medicine, of *kakkontokasenkyushin'i* (7.5g/day) for a period of 12 months to the patients with symptoms of sinusitis that had not shown improvements with Erythromycin 400-600mg/day for 6-12 months (diffuse panbronchiolitis in 3 patients and chronic bronchitis in 4: male 5, female 2) and observed changes in subjective findings (nasal congestion, nasal discharge, postnasal drip, and smell disorder) and in objective findings (the amount of postnasal drip, swelling of the nasal mucous membrane, the amount of nasal discharge, and characteristics of nasal secretion). The results indicated improvements in the subjective symptoms of nasal congestion, nasal discharge, postnasal drip, and smell disorder, and in the objective symptoms of swelling of the nasal mucous membrane, the amount of nasal discharge, and characteristics of nasal discharge, and the amount of postnasal drip. In terms of the symptoms of the respiratory tract, the degree of breathing difficulty and the amount of sputum improved on the Hugh-Jones scale with significantly elevated PaO<sub>2</sub> levels and significantly lowered PaCO<sub>2</sub> levels. Pulmonary function tests

indicated a significant increase in FEV 1.0% with a significant decrease in %RV. Blood tests showed significant decreases in cold agglutinin titer and serum levels of soluble ICAM-1 and a significant increase in NK-cell activity.

Report by Nakamura, et al.

They orally administered Clarithromycin, Mequitazine, and *kakkontokasenkyushin'i* to the 9 patients with a diagnosis of sinobronchial syndrome, which had not had attained complete remission with the medication for more than six months of Erythromycin and ontological procedures including nasal douching. And changes in symptoms were observed once every two weeks for three months using questionnaire sheets and the answers were assessed by scoring. As a result, improvements were shown in all patients, and a significant improvement was also shown in the scoring assessment (p,0.01). As a whole, symptoms ameliorated, although the degree of amelioration differs depending on patients.

### Discussion

*Kakkontokasenkyushin'i*, a formula developed in Japan in relatively recent years, has often been used for symptoms of acute and chronic sinusitis. The frequent use for sinusitis is based on the presumption that this formula, if used, for the condition that purulent nasal discharge caused by sinus inflammation flows down to the lower respiratory tract, which thereby becomes inflamed, could suppress the inflammation of the paranasal sinuses, leading to relief of the lower respiratory symptoms. The studies above successfully substantiated this presumption.

Moreover, on the basis of a similar concept, studies on *keigairengyoto* and *shin'iseihaito* have been conducted, and these formulae are known as being effective.

Diffuse panbronchiolitis mostly accompanied by sinobronchial syndrome is a disease that has often been reported in Japan whereas a fewer cases in the

U.S. and Europe. As the disease is most likely to be complicated by sinusitis, Kampo is a promising therapy.

There are several formulae that are used for this disease and one of the most effective formulae is *kakkontokasenkyushin'i*.

### References

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