

## Kampo Medicine - Current Research

### *Kampo Medicine for Treatment of Recurrent Upper Respiratory Tract Infection in Children*

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#### Introduction

There are children who repeatedly suffer upper respiratory tract infections (recurrent otitis media, recurrent tonsillitis included) and frequently visit clinics. Every time children see pediatricians, they administer medicines for the treatment of infections. However, soon after this, children suffer infections again. The repeated episodes not only makes it difficult for children to lead ordinary lives but also make their parents spend quite a bit of time for the care of their children. This can increasingly cause mental and physical stresses in children and parents as well as a significant social loss. Now efforts are underway to make such children relatively become less susceptible to infections and, even if infected, to get them cured in a short time by means of long-term administration of Kampo medicines<sup>1)</sup>. There are several prescriptions (not a single one) being used for the purposes, such as *saikokeishito*, *shosaikoto*, and *saikoseikanto*. Introduced hereunder are the results of a few studies in which these prescriptions were used.

#### Study using *saikokeishito*

Akiba et al. researched and studied on the effects of Extract of *saikokeishito* in 18 patients (male children 11, female children 7) aged from 11 months to 10 years with an average age of 5.5 years who developed cold-like symptoms six times or more during a year. They gave the patients oral administration of the Extract (0.1 - 0.25g/day) in one or two doses for the period of 4 to 12 months and studied the results, grouping effectiveness of the medicine into four categories: markedly effective for those who did not develop repeated cold-like symptoms during the administration period;

effective for those who had a decrease in the onset frequency of cold-like symptoms; unchanged for those who did not show any improvement; and aggravation for those who had symptoms aggravated. The by-group breakdown was markedly effective in 4 patients (22%), effective in 12 (67%), and unchanged in 2 (11%), and there were no patients who showed aggravation. A parent questionnaire indicated a decrease in the onset frequency of fever and an improvement in poor appetite<sup>2)</sup>.

Koga et al. administered Extract of *saikokeishito* (0.15g/kg/day) for one year term to 26 children who repeatedly developed upper respiratory tract infections seven times or more during a year and observed progresses of their symptoms for two years after the discontinuation of the medicine to assess the effectiveness. They classified the effects of one year administration into four grades: effective for a decrease in the onset frequency of respiratory tract infections to 1/2 or less; and markedly effective for a decrease in the onset frequency to 1/3 or less. The breakdown of the rates shows markedly effective in 23.1%, effective in 57.7%, unchanged in 15.4%, and ineffective in 3.8%. Out of 15 patients in the group of effective, infectious susceptibility increased in 4 children after the discontinuation of the administration but it was evidently improved compared to that of pre-administration. And, in 11 patients out of 16 whom we could follow up, the erythrocyte sedimentation rate, which had often exceeded 20mm/hour one month after the recovery from infections, did not increase after the administration<sup>3)</sup>.

Mine performed the administration of *saikokeishito* (2 - 2.5g/day) for 2 to 4 months to 10 nursery school children aged from 1.1 to 1.10 years who repeatedly developed infections to compare the number of visits to physicians before and after the administration. He reported that the number of visits reduced to nearly 1/2 in one-half the patients

and to 1/3 or less in four patients. Although infections that children in this study were affected with before the administration of *saikokeishito* were of various types, the infections common to all the children were upper respiratory inflammation and bronchitis. Other infections of less occurrence in the subject children were otitis media and viral gastroenteritis (5/10 respectively), and the least one was urinary-tract infection (3/10)<sup>4</sup>.

These studies show that the long-term administration of *saikokeishito* has effects on recurrent upper respiratory tract inflammation. The period of administration has not been established. Since these studies, however, indicate the onset of medicine effect appears within 3 months to 1 year, the administration period may be determined within the above time frame, depending on the patients' progress.

\*The reasons why *saikokeishito* is used to treat recurrent upper respiratory tract inflammation: *saikokeishito* is often used for children with weak constitution and those who repeatedly develop upper respiratory tract infections. Bupleurum root containing medicines are the prescriptions for supporting right and dispelling evil (reinforcing health and eliminating pathogens) that can treat both deficiency and excess at a time. *saikokeishito* can be used for people who lack physical strength and energy. Bupleurum root is a cool acrid exterior resolving medicinal that works with scutellaria root to dispel constantly invading evils and clears lung heat. Therefore, it can be used as a countermeasure to control recurrent infections of the initial stage. *Keishito* is a typical prescription for the harmonization of construction and defense, so that this decoction normalizes hyperhidrosis in children with weak constitution. This is also a prescription mainly used for the initial stage of a common cold in children with weak

constitution. Furthermore, as this prescription does not irritate the spleen and the stomach, it is safe for use for children. In other words, *saikokeishito* is effective for the mechanism of lung-spleen qi deficiency → hyperhidrosis (weakened activity of preventing fluid leakage) → invasion of external evil (pathogen) (weakened defense activity) → repeatedly develop upper respiratory tract infection.

Study using *shosaikoto*

*Saikokeishito* is made by adding *keishito* to *shosaikoto* (to be precise, one-third of the components in these two prescriptions are blended.) On the basis of the belief that *shosaikoto*, although it does not contain *keishito*, has similar activities to those of *saikokeishito*, studies are undertaken using *shosaikoto*.

Iwama et al. performed the administration, for the period of 6 months to 2 years, of Extract of *shosaikoto* (0.1 - 0.14g/kg/day) to 13 patients aged from 1 to 13 years (male 6, female 7, an average age of 5.7 years) who developed upper respiratory tract infections 5 times or more during a year or within the last 2 to 6 months to find and study the number of the fever onset, general condition, and blood test values. Improvements began to appear 2 to 3 months after the commencement of the administration; infectious susceptibility became reduced in 10 patients and the fever onset frequency reduced to 1/2 - 1/3. Other improved symptoms were observed in appetite, complexion, and energy levels. In 1 patient who showed ineffectiveness, white fur attached to tonsilla and influenza bacilli were detected with high levels of CRP<sup>5</sup>).

As Iwama et al. presumed, it was made clear that *shosaikoto* exerts effects very similar to those of *saikokeishito*. It may be considered that this result suggests that some relationship exists between the lesion at the location of lesser yang and recurrent upper respiratory tract inflammation.

### Study using *saikoseikanto*

*Saikoseikanto* is not a prescription of “Shang Han Lun” but the one that is often used by Ikkando, a school of Kampo medicine, for weak constitution and atopic dermatitis. Clinical studies are undertaken on the presumption that this prescription has effects on recurrent upper respiratory tract inflammation.

Iwama et al. have published findings of their research in which they administered *saikoseikanto* to 12 infants (2 to 8 years old, female 5, male 7) who repeatedly had tonsillitis. Their findings on examining the infants’ tonsilla were that many of the subject infants fall under Mackenzie’s classification II Degree, half of them had white fur in crypts. Some days after the acute phase, they commenced and continued the oral administration of this medicine for one year. One month after the commencement of the administration, the onset of fever occurred in 8 infants but in 2 months the fever did not develop. The frequency of the onset of fever reduced to 3 times/year in 10 infants who had developed it every month during 2 to 5 months before the administration. Two infants were nonresponsive to the medicine, of which 1 infant had tonsillectomy<sup>6)</sup>.

This report also suggests that *saikoseikanto* has similar effects to those of above two prescriptions. *saikoseikansto*, which is of a complex composition, is made based on the principle different from that of Shang Han Lun. This fact shows that infectious susceptibility in infants has a variety of aspects. Elucidation of this will require challenges for the future.

### Conclusion

A physiological characteristic of infants is vulnerability of the lung and spleen that control acquired qi. The children who repeatedly suffer

infections are obviously marked by deficiency in the lung and spleen. Since spleen (earth/soil) is the mother of lung (metal), it can be considered that making spleen healthy makes lung healthy.

In traditional Chinese medicine, treatment approaches for such children are based on the principle of replenishing qi to strengthen the exterior and of construction-defense harmonization; for deficiency of protection qi (defense power of the exterior), *hochuekkito*, *gyokuheifusan*, *keishikaogito* or *ogikenchuto* is used for replenishing qi to strengthen the exterior; and *rokumigan* for the kidney that control acquired qi; and *maobushisaishinto/shimbuto* for deficiency of yang qi.

Three types of prescriptions introduced here are the ones that have the activity of reinforcing health and eliminating pathogens rather than the activity of powerful supplementation/replenishment. All these prescriptions eliminate the evil in the location of lesser yang and have the activity of making triple energizers to function smoothly, and thus a long-term administration creates the internal environment that is able to prevent new evils from entering into the body. In some cases, it may be better to use the prescriptions for replenishing the lung and the spleen together. However, the result data currently available shows that the administration of those bupleurum root containing prescriptions produce sufficient effects, if it is continued for several months to nearly two years.

Preventing recurrent upper respiratory tract infections not only helps children to stay healthy but is of significance to kidney inflammation (IgA nephropathy or nephritis) and nephrotic syndrome that occur because the infections become a lesion.

The mechanism of preventive activity against these diseases must be clarified from the viewpoint of Western medicine. And in order to verify the

activity, there are many issues and questions to be solved, such as guidelines to be used. At the present stage, however, the use of those Kampo prescriptions allows to protect health of children and reduce medical costs and social losses. We consider that only for these benefits, Kampo treatment is worth doing.

#### References

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