CHAPTER V

DISCUSSION

As we know, perennial allergic rhinitis is a chronic non fatal disease and the symptoms are less severe than seasonal type. From this study, however, patients who came to the hospital were consist of moderate and severe symptoms in almost similar number (39:40). Probably since most of them experienced worse symptoms at early morning and night for 1 to 2 hours for months or years already. Besides the main symptoms of allergic rhinitis, some cases got headache, feeling fatigue, difficult to concentrate and felt sleepy during they have rhinitis symptoms. Perennial allergic rhinitis, therefore, might decrease patients productivity. These situations make patients to look for medication.

Allergen avoidance is the best way in preventing symptoms of allergic rhinitis, however, it is very difficult to be done in these cases since most of patients (83%) allergiic to dust mite and house dust. Furthermore, 85% of them give positive skin testing to more than one allergen.

Sneezing and rhinorrhea were two very disturbing symptoms of 68 % and 73% cases. According to the pathogenesis of allergic rhinitis those two symptoms were due to histamine

effect, therefore, antihistamine would have good response (11,12).

The result of the study based on the patients assessment showed that there were individual variations of antihistamines response among perennial allergic rhinitis patients. Most of patients, however, had similar response either success result (64.17%) or failure result (15%). Discordant response consist of 9 cases (13.4%) who success during 10 mg Cetirizine treatment but failure during 8 mg Chlorpheniramine treatment and 5 cases (7.4%) were success during 8 mg Chlorpheniramine treatment but failure during 10 mg Cetirizine treatment. From the physician assessment there also showed individual variation of response. Most of patients (80%) also had similar result. Success result of the physician assessment is little bit more than patients assessment, probably because physician examination were performed at noon time where most of allergic rhinitis symptoms already disappeared. The result of the patient assessment, however, consistent with the result of physician assessment where there was no significance difference between the success result of 8 mg Chlorpheniramine and 10 mg Cetirizine during ' days treatment. All data were analyzed twice, including patients with confounder event and then excluded them from the analysis and the result still the same.

Sub-group analysis was performed although the overall result of the two treatments did not show any significance difference to see whether there was a difference of the treatment response between the severe and moderate sub-groups. The result was not significant difference.

When the power of the study was recalculated based on the obtained data, it was found that the power became 0.65. It was since there were differences of the value of pD and pA. It was a good point of 8 mg Chlorpheniramine because observed discordant pair was smaller than it was estimated. It means that the difference response of 8 mg Chlorpheniramine and 10 mg Cetirizine was small. To assess whether there was significance difference between 8 mg Chlorpheniramine and 10 mg Cetirizine based on the observed data can be obtained by conducting another study .

Sedation adverse effect during Chlorpheniramine (8mg) treatment was significantly more then during Cetirizine (10mg) treatment. This difference, however, was not significant clinically since 69 (96.3%) cases did not mind to finish the treatment and they still did their daily activity. When it was compared to Kemp study (1985, using 4 mg 3 X a day), however, 8 mg Chlorpheniramine once a day in this study gave more sedation adverse effect (47% : 18.8%) (8). While when it was compared to Weiler study (1988, using 4 mg 4X a day)

sedation effect of 8 mg Chlorphneiramine once a day at night had smaller sedation effect (47% : 52%) (9). Sedation effect of Cetirizine (10 mg) treatment in the present study, however, was higher than that was reported by Mansmann study (32% : 15.3%) (7).

Sedation effect of antihistamine was correlated with the drug serum level. The drugs were given at 7.00 p.m., and the peak plasma level occurred 2 to 4 hours after dosing (at night), however, the plasma half life of Chlorpheniramine was 24 hours. It was the probable explanation why sedation effect still exist at day time in most of patients during the Chlorpheniramine treatment. The other reason probably because of the difference in the scale of measuring sedation adverse effect. There was no placebo comparison, however, some patients (23%) already have symptoms of sleepiness before treatment. It was not sure whether all sedation experienced were caused by the treatment or not. Headache, a vasodilatation - related symptoms was reported 15% of cases, however, 40% of cases already had the symptoms before treatment so it was not sure also whether the headache was caused by adverse effect of the treatment.

The other side effect of major concern was anticholinergic effect of antihistamine such as dry mouth, blurred vision, and urinary problem. In the present study

those adverse effects were found neither in 10 mg Cetirizine nor in 8 mg Chlorpheniramine treatment in significant different number of cases. Comparison with other studies can be seen in table 18.

The main outcome of this study was successful result in relieving perennial allergic rhinitis symptoms during the Cetirizine and Chlorpheniramine treatment. During the treatment patients still did their daily activity or their work. Sedation side effect of the treatment was experienced by significant different number of patients between the two treatments. However it was very hard to value the loss of productivity because of their sleepiness during their work. Therefore, economic evaluation appropriate for this study was Cost-effectiveness analysis to see which treatment was more cost-effective. From the cost-effectiveness analysis it was found that 8 mg Chlorpheniramine once a day is more cost-effective than 10 mg Cetirizine.

Table 15. Comparison with other studies

	treatment	result	sedation
1. Kemp (1985) seasonal A.R.	4mg Chlorph 3 x /day	compl.& mod symptom relief 59%	18.8%
	placebo	30.1%	2.4%
2. Weiler (1988) seasonal A.R.	4mg Chlorph. 4 x /day	symptom improv. 38%	52%
	placebo	23%	16%
3. Mansmann(1992) perennial A.R.	10mg Cetirizine once a day	50% sympt.improv. 62%	15%
	placebo	25%	16%
4. Present study (1995) perennial A.R.	8mg Chlorph. once a day	success 71.6%	47.7%
	10 mg cetirizine once a day	77.61%	32%

Actually it is difficult to compare the result of different studies directly since there are differences of the subjects are studied (seasonal and perennial allergic rhinitis), the design of study, the measurement and difference in the definition of the study result.