CHAPTER V

CONCLUSION

1. The twenty-four hypertensive patients who completed the two dosage titration studies were categorized according to their office BP after placebo run in for two weeks into eleven mild and thirteen moderate hypertensive patients, they were prescribed 5 mg and 10 mg per day of enalapril, respectively. Three out of eleven (27%) mild hypertensive patients were found to be normalized (office SBP < 140 and DBP < 90 mmHg) with 5 mg/d of enalapril. One patient (9%) was normalized with 7.5 mg/d and three patients (27%) normalized with 10 mg/d, the remaining four patients (37%) were still non-normalised (office SBP ≥ 140 but DBP ≤ 90 or SBP ≤ 140 but DBP ≥ 90 mmHg) and were further adjusted to a more appropriate drug or dosage regimens. Of the thirteen moderate hypertensive patients, ten patients only were prescribed with 10 mg enalapril per day as a starting dose. Among these none were normalized with their starting dose, one patient (10%) was later normalized with 15 mg/d of enalapril, five patients (50%)were normalized with 20 mg/d while four patients (40%) were still non-normalised and were further adjusted to other antihypertensive drug or to the new dosage regimens. Finally, the results obtained from seven mild hypertensive patients and nine moderate hypertensive patients only were included in the detail analysis of the antihypertensive effects of enalapril since their dosage increasing were the same.

2. Enalapril at the dosage of 10 or 20 mg per day could effectively reduce the office SBP DBP and MAP, while the BP reduction effect after 4 weeks of 5 mg enalapril in mild hypertensive patients couldn't be detected using office BP, office BP was not sustained to BP reduction as much as ABPM in mild hypertensive patients. Heart rate was not significantly changed after either dosages of enalapril.
3. Using 24-hour ABP monitoring, the dosages of 5, 10 and 20 mg once daily of enalapril could statistically significantly reduce SBP, DBP and MAP from baseline whether the results were evaluated for the whole 24-hour, during day-time or during night-time only. Comparison the absolute reduction in SBP, DBP and MAP between 5 and 10 mg per day showed statistically significant in either periods. While in the moderate hypertensive group, comparison the difference in BP reduction between 10 and 20 mg showed significant in average 24-hour SBP and DBP, average daytime MAP and average night-time SBP. However, it was summarized that the BP reduction were increased when treated with higher dose.
4. The antihypertensive effects of enalapril administration at the dosage of 5-20 mg daily were also evaluated as the mean rate of BP reduction. The mean rate of BP reduction per one mg of enalapril administration was around 1-2 mmHg for SBP and around 0.7 mmHg for DBP. These mean rates of BP reduction could be used as an initial roughly estimation of the appropriate dosage of enalapril for hypertensive patients.
5. When the individual patient factor were considered versus rate of BP reduction, obvious or no significant correlation between age, sex, body mass index, pretreatment BP, stage of hypertension of patients and the rate of BP reduction could be concluded since the different in rate of BP reduction within each factors were not statistically significant. Even though the rates of BP reduction after

treatment with 10 mg of enalapril in the mild hypertensive group showed slightly higher than those of the moderate hypertensive group after treatment with the same dosage regimen and the rates of BP reduction in female tended to show higher values than those obtained in male, all these differences were not statistically significant since the number of subjects was so small while the variation within the same group was quite large.

6. Calculation of the frequency and absolute values of BP loads during day-time, night-time, and 24-hour after treatment revealed that higher doses of enalapril resulted in higher reduction of both frequency and magnitude of BP loads but the percentage and extent of these reduction were not linearly proportion to the amount of dosage administration. After treated with enalapril at the dosage of 10 and 20 mg daily the frequency of BP loads were significantly reduced from baseline, but when compared the results obtained from the dosage of 5 mg versus 10 mg and 10 mg versus 20 mg they were found to be non statistically significant. For magnitude of SBD and DBP loads, mostly the reduction was found to be non statistically significant when compare with either baseline or between different dosage treatment groups. However some significant was found when the highest dose of 20 mg per day of enalapril was used.
7. The area under the SBP and DBP curve which above normal BP values were still found after treatment with either 5, 10 and 20 mg per day of enalapril in hypertensive patients, even though these AUC were statistically significantly reduced from baseline. However, when compare between 5 mg versus 10 mg and 10 mg versus 20 mg dosages these AUC reduction were non statistically significant. The initial dose could produce a more pronounced effect on the

reduction in the AUC (above normal blood pressure) of SBP and DBP than the consecutive dose.

8. Within the dose range used in this study (5-20 mg per day) mostly enalapril would reduce the BP to the extent of 0-10% and 10-20 % below the baseline BP of the patients, very few percentage of the reduction were beyond the extreme (> 30 % below the baseline BP)
9. The vales T : P ratios derived from the average efficiency at trough and at peak and the T : P ratios which derived from the average of each individual T : P ratios provided similarly result. The values were ranged from lower to higher (40 to 60 %) than 50 % for both SBP and DBP with either 5, 10 or 20 mg of enalapril treatment, The number of patients whose T : P ratios > 50 % were increased with higher dose. This mean that in some patients, enalapril could maintain its effect of induced BP reduction to at least 50 % of the peak effect until the last 24-hour while in some patients the drug couldn't control the BP throughout 24-hours. It was suggested that once daily regimen might not be suitable for some patients and should be treated with the twice daily regimen instead especially with lower dosage of enalapril.