# CHAPTER VI

## CONCLUSION

The pharmacokinetic analysis following an oral administration of ampicillin and bacampicillin was performed on the time course of change of ampicillin activity in serum and urine. The observations in this study were consistent with those reported by a number of studies. The more advantage of bacampicillin than ampicillin was largely explained by the higher extent and rate of oral absorption. Bacampicillin is absorbed more rapidly than ampicillin, the peak serum levels occurs at 45 minutes whereas it is about 1 - 1.5 hours after the administration of ampicillin. The extent of absorption considered by the peak concentrations, the $AUC_0^\infty$ and the percentage urinary recovery of drug are more substantially higher than those obtained after oral administration of ampicillin. In addition to supporting the better oral absorption of bacampicillin than ampicillin, the pharmacokinetic analysis also advocated the view that bacampicillin was rapidly hydrolysed to ampicillin in vivo by the enzymes present in sera or the intestinal mucosa. The invention of bacampicillin, therefore fulfilled the attempts to synthesize the precursors of ampicillin to enhance its relatively poor intestinal absorption. Moreover, the findings of a much faster peak time and the steep rise in serum levels may indicate that it is possible with bacampicillin to treat orally infections that have heretofore required parenteral therapy with ampicillin. Clinically, bacampicillin,

which its absorption is not affected by food, may be the better choice since the administration of the drug on the empty stomach is not always feasible and is very neglected by the patients in practice.

From the pharmacokinetic point of view, bacampicillin constituted a substantially improved over ampicillin and therefore, when given in adequate doses, could be expected to give better clinical responses, especially in infectious cases with ampicillin-sensitive pathogens.