Chapter 6: Summary & Conclusion
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The present study was undertaken to assess and demonstrate the bioequivalence of single oral dose of levofloxacin 500 mg tablet (Loxof tablets 500 mg) manufactured by Ranbaxy (M) SDN. BHD, Malaysia with Cravit 500 mg tablet (containing levofloxacin 500 mg) manufactured By PT. Kalbe Farma Tbk. Indonesia, in healthy, adult, human subjects under fasting condition and to monitor the safety of subjects.

The protocol and the corresponding ICF (Informed Consent Form) used to obtain informed consent of study subjects were reviewed and approved by the Institutional Review Board.

This research was carried out in accordance with the generally accepted Principles of Good Clinical practices defined in the Ethical Guidelines for Biomedical Research on Human Participants issued by Indian Council of Medical Research (ICMR), New Delhi, Good Clinical Practices guidelines for Clinical Research in India issued by Central Drugs Standard Control Organization, Ministry of Health and Family Welfare, Schedule Y, Drug & Cosmetics acts (amended 2005), the ICH E6 'Guidance for 'Guidance on Good Clinical Practice' and the principles enunciated in the Declaration of Helsinki (59th WMA General Assembly, Seoul, October 2008). The standard procedures have been adhered to in the clinical, analytical, pharmacokinetic and statistical analysis performed during the course of the present study.

The clinical phase of the study was conducted as an open label, balanced, randomized, two-treatment, two-sequence, two-period, single-dose crossover bioequivalence study in twenty eight (28) healthy, adult, human, male subjects under fasting condition.
The test and reference products were well tolerated by the study subjects. Two adverse events were reported, during the conduct of the study, which were not serious and resolved without sequelae.

A ‘High Performance Liquid Chromatography tandem Mass Spectrometric Method’ was developed and validated for the Estimation of Levofloxacin in Human K$_3$EDTA Plasma using Levofloxacin-d8 as an Internal Standard. The method was validated in terms of selectivity, selectivity of analyte in presence of concomitant medication, sensitivity, linearity of response, carry-over effect in human plasma, precision and accuracy in human plasma, recovery, stability, re-injection reproducibility, dilution integrity, matrix effect, matrix factor, ruggedness, extended precision and accuracy and long term stability. The above analytical method was validated for the estimation of Levofloxacin in human K$_3$EDTA plasma over a range of 30.8 ng/mL to 13073.2 ng/mL using Levofloxacin-d8 as an internal standard.

On Statistical analysis, the ratios [T/R (%)] of least-squares means (with 90% confidence intervals) for the log transformed pharmacokinetic parameters, C$_{\text{max}}$, AUC$_{0-1}$ and AUC$_{0-\infty}$ were 105.60% (98.34% – 113.40%), 105.63% (103.30% – 108.02%) and 105.54% (103.20% – 107.94%), respectively for Levofloxacin.

The deviations reported in this study were judged unlikely to affect the bioequivalence of the products evaluated.

The results demonstrated that levofloxacin 500 mg tablet (Loxof tablets 500 mg) manufactured by Ranbaxy (M) SDN. BHD Malaysia, was bioequivalent to Cravit 500 mg tablet (containing levofloxacin 500 mg) manufactured By PT. Kalbe Farma Tbk. Indonesia, in healthy, adult, male human subjects under fasting condition. The test and reference products were well tolerated by the study subjects.