7.0 CONCLUSION

All the three products passing the USP standard of the dissolution test and more than 85% of the drug were released before 15 minutes from the dissolution properties and it is a very rapidly dissolving formulation category and they were similar indication, instruction for use and pharmaceutical equivalent according to the label condition. Products A and C were shown comparable pharmacokinetics in rate and extend of oral absorption and similar in other pharmacokinetic properties to the comparative reference product B based on bioavailability, pharmacokinetic analysis and statistical evaluation. Therefore Products A and C are expected therapeutically equivalent to Product B in a clinical situation.

However the safe interchangeability of therapeutic equivalent products in clinical practice lies with the following conditions which are very specific to Gabapentin clinical use which consists of two categories. One is pain management and another one is seizures control. There are no specific conditions of use for pain management and whenever necessary change in low cost generic therapeutic equivalent product is advisable. It offers a substantial advantage in terms of cost saving with seizure control therapy. The cheaper generic therapeutic equivalent products are safely interchangeable with the following conditions due to disease properties: If the treatment is initiated cheaper one is preferred. In case of necessity of substitution of generic therapeutic equivalent products, it is advisable to inform carefully the patient and his/her healthcare provider about the nature and the characteristics of these products and the stringent regulations that govern their availability in the market. This is very important to improve compliance and to relieve the anxiety while receiving a prescription for these products for patients already treated with an innovator product that has incomplete seizures control. It is advisable to switch over to another drug; whenever a change of product is felt. But careful patient monitoring is needed and no TDM in case of Gabapentin; in patients who achieved complete seizure remission. Preferring even therapeutic equivalent pharmaceutical products is not advisable without any specific reason. However cost saving and drug availability in the market are under concern.
Chapter 7

Conclusion

The study concluded that 300 mg of Gabapentin immediate release capsule of marketed formulation of Gabalept manufactured by Micro Labs and Gabata manufactured by Alkem Laboratories are therapeutically equivalent with comparative reference product Gabantin manufactured by Sun Pharmaceuticals and they were interchangeable in clinical practice for cost saving and formulation availability at the pharmacy shop as well. This is the impact of the present study which includes in-vitro dissolution test according to pharmacopoeia standard and in-vivo orally bioavailability studies on human as per the available BA/BE guidelines and ethical principles.

The point wise conclusions were drawn from the study

- Products A and B differ the mean PK parameter by less than 5% and whereas other two comparisons (A vs C and B vs C) are exit less than 11% difference in the mean value in which one is marginally passing and another one is unknown for 90% CI of BE.
- Both the test products (A and C) were bioequivalent to the comparator product (B) when the US FDA criteria (90% confidence interval limits 80-125% was applied.
- The two test generic products were bioequivalent with comparator reference product and could replace the very expensive product, without compromising the health status.
- Generic substitution of anti epileptic drugs is not safe however the bioequivalent products are interchangeable when the necessity arises on the basis of availability of drug and saving of cost.
- The Gabapentin bioequivalent generic substitution in pain management was freely accepted
- Although the generic substitution in these conditions may produce considerable cost saving. These should balance the hospitalization and the patient’s therapeutic stability
- The patient should always be informed about the change or alteration by the physician to be vigilant and to report to the concerned immediately in case of any adverse effects or untoward changes.
It is also clear from my brief comments that the principles underlying the methods for bioequivalence assessment of marketed generic drugs are not simple and, it is fair to say, not well known to most health professionals. On the issue of therapeutic equivalence between oral medicinal products containing active substances with different manufacturer, the major authorities issuing bioequivalence guidelines do not share the clear opinion about the methodology for evaluation the therapeutic equivalence among the available marketed formulations. In view of this the study also lacking the comparison between product A and C, both are generic drugs and it remains unanswered for therapeutic equivalence of generic drug to the reference/innovator drug after the comparison.

The Brand to generic or generic to generic switching is a plausible option should bioequivalence become evident. Health care providers, particularly pharmacists, should contribute significant involvements by reporting any bioequivalent problems to the regulatory agency through their post-marketing surveillance systems and to counsel the patient when the switch takes place.