



In Vitro Absorption Studies of Acyclovir Using Natural Permeation Enhancers

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SUMMARY. Gastroretentive Delivery Systems are employed to improve the bioavailability of drugs which are absorbed through upper part of GIT, by increasing their retention time. Incorporation of permeability enhancers in the formulations of such drugs can further increase their bioavailability; however their use in the formulations is questionable due to the toxicity exhibited by them. Acyclovir is a class III drug having low oral bioavailability due to improper absorption. Mucoadhesive tablets of acyclovir containing natural permeation enhancers were prepared by direct compression and evaluated for mucoadhesion strength, *in-vitro* dissolution parameters and *in-vitro* absorption studies. The formulations containing *Aloe vera* extract showed increase in the mucoadhesion strength and retarded the drug release. The *in-vitro* absorption studies revealed that the formulations containing *Aloe vera* extract (Enhancement Ratio 1.94) and *chausath prahar pippal* (Enhancement Ratio 1.87) showed significant increase in the permeation of the drug. The studies led to the conclusion that by formulating mucoadhesive tablets of acyclovir containing natural permeation enhancers increased the permeability, thus proving to be the cheaper and easily available alternative to the other permeation enhancers.

KEY WORDS: Acyclovir, *Aloe vera*, *Chausath prahar pippa*, Natural permeation enhancer.

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