

**LIQUISOLID TABLETS FOR DISSOLUTION ENHANCEMENT OF
HYPOLIPIDEMIC DRUG**

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ABSTRACT

One of the approaches for enhancing dissolution of poorly soluble drugs is to formulate them as liquisolid compact. Liquisolid compacts are compactable powdered forms of liquid medications. This investigation was aimed to improve the dissolution rate of the poorly soluble drug Lovastatin, by delivering as a liquisolid compact. Different liquisolid (LS) compacts were prepared using a mathematical model to calculate the required quantities of powder and liquid ingredients to produce acceptably flowable and compressible admixture. Avicel PH 200, Cab-O-Sil, Sodium starch glycolate and PEG 400 were employed as carrier, coating material, disintegrant and non-volatile liquid vehicle respectively for preparing LS compacts. The various drug to liquid and carrier to coating ratio were used to prepare liquisolid compacts. The formulated liquisolid tablets were evaluated parameters such as weight variation, hardness, drug content, percentage friability and disintegration time. The in-vitro release characteristics of the drug from tablets formulated by direct compression and liquisolid technique, were compared in two different dissolution media. FTIR study was carried out to determine drug-excipient interaction and the crystallinity of the drug. The tableting properties of the liquisolid compacts were within the acceptable limits and drug release rates of all prepared LS compacts were distinctly higher as compared to directly compressed tablets in different dissolution media. The FTIR spectra showed no interaction between drug-excipient and disappearance of the characteristic absorption band of lovastatin in liquisolid formulations which could be attributed to the formation of hydrogen bonding between the drug and liquid vehicle, which resulted in drug dissolution enhancement. Thus, the liquisolid technique was found to be a promising approach for improving the dissolution of a poorly soluble drug like Lovastatin.

Key words: Liquisolid compacts, Lovastatin, Dissolution, Carrier and Coating material