Abstract

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Title of Thesis: Development of liquisolid systems containg candesartan

In the field of pharmaceutical research and drug development, increasing water solubility is a key strategy that significantly affects bioavailability. One of the innovative methods that has come to the fore in recent years represents liquisolid systems, which provide a promising approach to increase the solubility of water-poorly soluble drugs such as candesartan cilexetil.

In an effort to achieve the aforementioned, and thus potentially affect the bioavailability of candesartan cilexetil, liquisolid systems containing the drug in different concentrations were prepared using Transcutol® HP or propylene glycol as a non-volatile solvent and Neusilin® US2 as a porous carrier material. The obtained mixtures formed this way were put into hard gelatin capsules, which were subsequently submitted to a dissolution. For comparison, hard capsules containing pure candesartan cilexetil as well as three physical mixtures corresponding to the content of the drug in selected liquisolid formulations were prepared.

Based on the obtained results, almost all liquisolid systems showed enhanced dissolution rate of candesartan cilexetil compared to its pure form. However, it was observed that the type of adsorbed dispersion played an important role in drug release. The fastest dissolution profiles were observed in liquisolid systems containg drug in the form of the solution. However, compared to physical mixtures, liquisolid systems showed a comparable release of the drug from the system.