Design and Characterization Pulsatile Drug Delivery System of Losartan Potassium Tablets

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ABSTRACT

The objective of the present study was to design and evaluate time dependent pulsatile delivery systems of losartan potassium pulsatile press coated tablets. Losartan potassium is angiotensin II (AG II) receptor antagonists to treat hypertension. Losartan potassium pulsatile systems are is basically time-controlled drug delivery systems which are designed to mimic the circadian rhythm of the body and deliver the drug at a specific time. Losartan potassium pulsatile tablets were prepared by direct compression method using single punch machine. The prepared tablets were shielded with combination of different grades of HPMC and ethyl cellulose as coated materials. Prepared core and pulsatile tablets were optimized and evaluated for various properties like diameter and thickness, uniformity of weight, hardness, friability, disintegration time, drug content and dissolution rate. Based on the drug release profile losartan potassium pulsatile tablet batch of LH-3 and LH-4 designated as the optimized batch that shows the lag time of 8 to10 hrs. Losartan potassium pulsatile tablets will be taken at bed time, releasing drug in the morning hrs when the symptoms are more prevalent can prove to be a revolution in the treatment of hypertension.