LIQUISOLID-BASED PULSATILE SYSTEM OF CARVEDILOL: EFFECT OF LIQUISOLID COMPACT ON ANTIHYPERTENSIVE ACTIVITY AND DRUG RELEASE

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ABSTRACT

Current work was aimed to use liquisolid compact technology to build a pulsatile system containing carvedilol. Liquisolid compact based core tablets were produced with a Syloid® 244FP coating and a Neusilin US2® carrier. The tablets were press-coated with a barrier layer made of the polymers hydroxypropyl methylcellulose K 15M and ethyl cellulose. The physical characteristics of the liquisolid-based pulsatile formulations produced were investigated using differential scanning calorimetry, X-ray diffraction analysis and infrared spectroscopic techniques. Compared with a commercial formulation, optimized liquisolid core-tablets reduced the blood pressure significantly ($P<0.0001$). The lag time of the tablets with the optimized composition was 6 h. The carvedilol release was 100.002% within 2h after the lag time. Our findings suggest that carvedilol was effectively delivered in the desired pulsatile release pattern by the liquisolid compact-based compression-coated tablets.