

(1) キトサン/シクロデキストリン複合材料を使用した徐 放性オルメサルタン錠の設計と評価

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Design and Evaluation of An Extended-Release Olmesartan Tablet Using Chitosan/Cyclodextrin Composites

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ABSTRACT: Sustained-release olmesartan tablets (OLM) were prepared by the simple, direct compression of composites of anionic sulfobutyl ether- β -cyclodextrin (SBE- β -CD) and cationic spray-dried chitosan (SD-CS), and were evaluated for use as a sustained release preparation for the treatment of hypertension. An investigation of the interaction between OLM and SBE- β -CD by the solubility method indicated that the phase diagram of the OLM/SBE- β -CD system was the AL type, indicating the formation of a 1:1 inclusion complex. The release of OLM from tablets composed of the SD-CS/SBE- β -CD composite was slow in media at both pH 1.2 and at 6.8. The in vitro slow release characteristics of the SD-CS/SBE- β -CD composite were reflected in the in vivo absorption of the drug after normal rats were given an oral administration of the preparation. Furthermore, the SD-CS/SBE- β -CD composite continuously increased the antihypertensive effect of OLM in hypertensive rats, compared with that of the drug itself. These results suggest that a simple mixing of SD-CS and SBE- β -CD can be potentially useful for the controlled release of a drug for the continuous treatments of hypertension.

抄録 アニオン性スルホブチルエーテル- β -シクロデキストリン (SBE- β -CD) とカチオン性スプレー乾燥キトサン (SD-CS) の複合材料を単純に直接圧縮して徐放性オルメサルタン錠 (OLM) を調製し、高血圧症の治療のための徐放性製剤としての使用を評価した。その結果、SD-CS と SBE- β -CD の単純な混合が、高血圧の継続的な治療のための薬物の制御放出において、潜在的に有用である可能性を示唆した。

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