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论文

羟丙基甲基纤维素的性质对药物亲水性骨架片溶出度的影响

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摘要:

考察了羟丙基甲基纤维素(HPMC)的羟丙基含量、HPMC颗粒大小和HPMC的粘度对模型药物卡托普利、扑尔敏和蚓哚美辛(消炎痛)骨架片药物溶出的作用。结果表明药物溶解度不同对骨架片中HPMC不同性质的影响也不同。HPMC羟丙基含量增高,溶出速率加快;而卡托普利和扑尔敏则相反。HPMC颗粒大小对卡托普利和扑尔敏骨架片溶出影响较小,但对蚓跺美辛骨架片有一定影响,表现为HPMC颗粒越小,溶出速率越慢。由HPMCK100构制的骨架片对3种药物均达不到阻滞释放的作用。HPMCK4M,K15M和K100M的粘度差异对卡托普利和扑尔敏的溶出影响不大,但随着粘度增加吲跺美辛的溶出速率减慢。

关键词: 卡托普利 扑尔敏 蚓跺美辛(消炎痛) 羟丙基甲基纤维素 亲水性骨架片 溶出速率

EFFECT OF PHYSICO-CHEMICAL PROPERTIES OF HYDROXYPROPYLMETHYLCELLULOSE ON DISSOLUTION FROM HYDROPHILIC MATRIX TABLETS

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Abstract:

The effect of cellulose ether substitution ,particle size and viscosity of hydroxy-propylmethylcellulose (HPMC)on the dissolution from hy drophilic matrix tablets was studied withcaptopril(I),chlorpheniramine maleate(II)and indomethacin(III)as model drugs. It was foundthat the dissolution of drugs from matrix was connected with the physico-chemical properties of HPMCand drug solubility.The dissolution of I and II matrix tablets was slower with higher hydroxypropylcontent,but for III the result was the opposite,Hence ,hydroxypropyl content was the major factoraffecting the dissolution. The range of HPMC particle size from below 60 mesh to above I20 meshgave similar release rate for I and II ,but smaller particle size would give slower dissolution rate fromIII matrix. HPMC K100 gave the highest dissolution rate for all three drugs, which were released innearly 60 min. Variation in viscosity of HPMC K4M,K15M and K100M showed insignificant differ-ence in dissolution rate for I and II, and higher viscosity of HPMC gave slower release for III matrix tablets.

Keywords: Chlorpheniramine maleate Indomethacin Hydroxypropylmethylcellu-lose Dissolution rate Hydrophilic matrix tablet Captopril

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