Dissolution-Equivalent to Core Tablet

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The present terfenadine-pseudoephedrine dosage from is the sustained release core tablet composed of outer (fast release) and inner (sustained release) layer. To develop the double layered tablet dissolution-equivalent to core tablet, the fast and sustained release layers were prepared using various disintegrants and polymers, respectively. The layer composed of [terfenadine/pseudoephedrine/lactose/corn starch/sodium bicarbonate/HPC/sodium laurylsulfate/microcrystalline cellulose (60/10/90/30/20/1/40/1/293 mg)], which gave the fast disintegrating time and high dissolved amounts of drugs, was selected as the fast release layer. The dissolved amount of pseudoephedrine from sustained release layers were more increased with smaller ratio of ethylcellulose and HPMC. Dissolution mechanism analysis showed the release of pseudoephedrine was proportional to the square root of time, indicating that drug might be released from the layers by Fickian diffusion. The layer composed of [pseudoephedrine/ethylcellulose/HPMC (110/30/155 mg)], which had the similar dissolution amounts of pseudoephedrine to the inner layer of core tablet, was selected as the sustained release layer. Furthermore, the dissolved amounts of drugs from the core and double layered tablet had the deviation of less than 5% against the average dissolved amounts of drugs at each time, respectively. There was no significant difference between the dissolved amounts of drugs from these tablets at each time in pH 1.2, 4.0 and 6.8, respectively ($P>0.05$). Our results suggest that this double layered tablet was dissolution-equivalent to the core tablet

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Evaluation of a polymeric matrix for the controlled release of cefadroxil

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The purpose of this study was to evaluate the efficacy of a polymeric matrix developed for the prevention of bacterial adhesion and growth on its surface by controlled release of antibiotics. Cefadroxil was incorporated into a polyurethane matrix by the solvent casting method. The matrix was then coated with polyurethane in tetrahydrofuran solution. The release of cefadroxil from the matrix into the distilled water at 37℃ was measured by HPLC. The morphological change of matrices before and after release studies was investigated by the scanning electron microscopy (SEM). The duration of antimicrobial activity of matrix against E.coli and S.aureus was evaluated by measuring the diameters of inhibition zone and the optical density of the broth. The matrices were also implanted subcutaneously in rats, and the duration of the antibacterial activity was determined by measuring the inhibition zone. The results showed that the release of cefadroxil from the polymeric matrix was successfully determined by measuring the inhibition zone and the optical density of the broth. It was also possible to determine the duration of the matrix in vivo by implanting the matrix in rats and measuring the inhibition zone. A good relationship was observed among the methods used in this study for the evaluation of the polymeric matrix.

[PE1-12] [04/21/2000 (Fri) 10:30 - 11:30 / [1st Fl, Bldg 3]]

Cyclosporin A adsorption to surfaces and prevention with serum

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