Abstract

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Title of Thesis: A study of the influence of co-processed dry binder type on the properties of orally disintegrating tablets with antihypertensives.

This thesis deals with the study of tableting materials and orally dispersible tablets containing coprocessed dry binders Ludiflash®, Prosolv® ODT G2 and Parteck® ODT in combination with the antihypertensives ramipril and perindopril. The tablets also contained the sweetener sucralose and the lubricant magnesium stearate in a concentration of 1%. The tablets were compressed at a compression force of 3 kN. The evaluated parameters were the energy profile of the compression process, tablet tensile strength, friability, disintegration time, wetting time, water absorption and tablet porosity.

The highest values of the total compression energy showed tablets containing Ludiflash® in combination with perindopril and the lowest values had tablets containing Prosolv® ODT G2 with ramipril. Tablets from the combination of Parteck® ODT with ramipril and Ludiflash® with perindopril showed the highest tensile strength of the tablets. Conversely, tablets from Prosolv® ODT G2 with both drugs had the lowest strength values. Tablet friability values from all formulations met the pharmacopoeial limit below 1%. The disintegration time of tablets from all formulations was also below the pharmaceutical limit for ODT, i.e. within 3 minutes. The tablets from the combination of Parteck® ODT with ramipril showed the shortest disintegration time, the combination of Prosolv® ODT G2 with perindopril showed the longest disintegration time. Disintegration time did not correlate with wetting time or tablet porosity values. The combination of coprocessed dry binders Parteck® ODT and Ludiflash® with the drug ramipril appeared to be the most suitable formulation for ODT in terms of tablet properties.