Sustained-release effect of codried excipients of microcrystalline cellulose and Ganoderma Fiber (2001)

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Abstract

The sustained-release effects of codried excipient of modified Ganoderma (treated with alkaline solution) and microcrystalline cellulose at different ratios were examined using acetaminophen (ACT) as a model drug. Results demonstrate that the crushing strength of most ACT tablets made with codried powder at all ratios increased as compaction force increased; but a rapid decline was observed when compression force exceeded 2 tons. Drug release from tablets compressed at 0.5 ton increased as modified Ganoderma fiber content increased. But when the compression force exceeded I ton, the release rate was not influenced by the compaction force or the increasing content of Ganoderma fiber. However, the dissolution of ACT from these tablets could be sustained for longer than 24 h. The extent of drug release was shown to increase with increasing amounts of modified Ganoderma in the codried excipient. The addition of disintegrants could further accelerate the drug release from the tablet. Drug release was also dependent upon the amount and kind of disintegrant used. The influence was in the following order: primojel > crospovidone > starch 1500.