

Direct Compression Formulation of Poorly Compressible Drugs to Minimize the Tablet Defects

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Abstract : Capping and lamination are the most common tablet defects with poorly compressible drugs the common example of that Ibuprofen and Acetaminophen. Generally both these drugs are compressed by wet granulation method which is very time consuming process Ibuprofen and Acetaminophen is widely used as prescription & non-prescription medicine. Ibuprofen mainly used in the treatment of mild to moderate pain related to headache, migraine, postoperative condition and in the management of spondylitis, osteoarthritis Acetaminophen used as an analgesic and antipyretic drug. Ibuprofen having high tendency of sticking to punches of tablet punching machine while Acetaminophen is not ordinarily compressible to tablet formulation because Acetaminophen crystals are very hard and brittle in nature and fracture very easily when compressed producing capping and laminating tablet defects therefore wet granulation method is used to make them compressible. The aim of study was to prepare Ibuprofen and Acetaminophen tablets by direct compression technique and their evaluation. In this investigation tablets were prepared by using directly compressible grade excipients. Dibasic calcium phosphate, lactose anhydrous (DCL21), microcrystalline cellulose (Avicel PH 101). In order to obtain best or optimize formulation nine different formulations were generated among them batch F5, F6, F7 shows good results and within the acceptable limit. Formulation (F7) selected as optimize product on the basis of evaluation parameters.

Keywords : capping, lamination, tablet defects, direct compression

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