

Review on Chronomodulated Drug Delivery Systems

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Abstract: Chronomodulated drug delivery systems are gaining a lot of interest as they deliver the drug based on the circadian rhythm of disease. It releases drug at the right place at the right time and in the right amount, increasing patient compliance by reducing dosing frequency. Such systems are designed in such a way that complete and rapid drug release is followed by predetermined lag time they are also known as pulsatile drug delivery systems (PDDS), time-controlled systems, or sigmoidal release systems. Numerous systems like capsular systems, osmotic systems, single and multiple-unit systems based on the use of pH sensitive polymers, erodible polymer and swelling hydrophilic polymers have been discussed in the article. These systems are beneficial for the drugs having chronopharmacological behavior such as drug used in treatment of rheumatoid arthritis, osteoarthritis and ankylosing spondylitis like inflammatory disorders. This review article discuss various diseases targeted by pulsatile drug delivery system, types and classification of chronomodulated delivery systems and patented technologies. A number of chronotherapeutic medications, aiming at synchronizing medications and the intrinsic biorhythms of disease have been developed by novel drug delivery technology.

Keywords: Pulsatile drug delivery system, chronomodulated, circadian rhythm, chronobiology

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