Antiviral nanodelivery systems: current trends in acyclovir administration

ABSTRACT

Poor bioavailability of acyclovir in the treatment of viral infections remains one of the major drug delivery concerns of pharmaceutical manufacturers and researchers. Nanoparticulate systems have been exploited with the aim of improving the current pharmacological limitations of acyclovir administration. In fact, nanoparticles do offer many advantages, especially in terms of their physicochemical stability and sustained-release properties. Besides, they are made of biocompatible materials, which are nontoxic to cells. Acyclovir has been a focus since the last decade as one of the low bioavailability drug models loaded in various types of newly synthesized drug delivery vehicles. In this review, compositions and formulations of nanosized acyclovir particles, as well as their stability and pharmacokinetic profile, are discussed in further detail.