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Formulation and *in-vitro* investigation of Aspirin nanoparticles loaded suppositories as a drug delivery system for colorectal carcinoma

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Aspirin suppositories which are in commercial use suffer with side effects such as irritation, burning sensation, rectal hemorrhage. The aim of the present work is to formulate aspirin nanoparticles loaded suppositories and to perform *in-vitro* investigation for the prepared suppositories. Initially aspirin-chitosan nanoparticles were prepared by ionic gelation method and the nanoparticles evaluated for different *in-vitro* evaluation studies; based on results the best formulation was selected and in order to know the diffusion efficiency, different compositions of aspirin glycerogelatin suppositories were prepared and subjected to various *in-vitro* evaluation studies and best composition was selected. From the previously performed evaluation studies best formulation from aspirin nanoparticles incorporated in to selected glycerol gelatin bases and evaluated for *in-vitro* characteristics. The results indicates that formulation Fa9 Aspirin nanoparticles were proved to be best formulation with 88.3±1.1 % of drug release at the end of 24hr, with zero drug release. *In-vitro* characterization performed for aspirin suppositories indicates that Fs2, Fs4, Fs9 and Fa11 was proved to be best composition with highest percentage of drug release at the end of 60 minutes with 98.06±1, 99.3±0.45, 97.6±1.8 and 97±1 drug release and other characteristic studies performed indicates that all formulation are ideal characteristics. Previously selected bases composition used for the loading of nanoparticles based on displacement value results indicates that drug release appears with a lag phase initially and controlled for a period of 24hr. Hence from the investigative work we can conclude the prepared formulation was proved to be best and safe enough for the daily usage of aspirin suppositories with out patient complaint.

Biography

V. Ravi Sankar has completed his M.Pharmacy at the age of 25 years from SRM University and presently working as Assistant Professor. He has published journals in both in Indian and international papers. He has published a practical manual namely Biopharmaceutics and Clinical Pharmacokinetics.

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