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Polymeric Micelles of Capecitabine: Design, Characterization & Cytotoxic Study

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Abstract : The present study was aimed to prepare polymeric micelles of capecitabine: design, characterization & cytotoxic study. Capecitabine is aprodrug used in the treatment of metastatic colorectal cancer and breast cancer. Polymeric micelles formulations are being formulated to achieve smaller particle size, good stability, increase the solubility, and prolong release of the drug. The micelles have been prepared by using organic solvent/water emulsion technique. Then the prepared formulation has been undergone for drug content, entrapment efficiency, particles size, zeta potential. From this best formulation is converted into tablets by using the excipients. Preformulation study was carried out by using with and without excipients. Then tablets were made using direct compression method by using 9mm concave punches in rotary tablet press. Then the tablet is dip coated using ethyl cellulose of different concentrations. The formulations were evaluated for thickness, hardness, disintegration, dissolution. The tablets shows release formulation upto 12 h.Cytotoxic study has been done in human colon cancer (HT-29) cells by using MTT assay.

Keywords : Capecitabine, polymeric micelles, entrapment efficiency, dip coating, ethyl cellulose.

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