DEVELOPMENT AND EVALUATION OF FLOATING IN-SITU GELLING SYSTEM OF METRONIDAZOLE

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Problem statement Helicobacter pylori are one of the most common infectious agents, gram negative bacteria which are responsible for gastric ulcer and gastric adenocarcinoma. According to WHO and International Agency for Research, H. Pylori is a type I carcinogen. H. Pylori is adapted to live in the acidic environment of the stomach but it change their environment and allowing them to survive. The objective of this study was to prepare metronidazole containing floating in-situ gel which was resolved the problem created by h. pylori. In systemic drug delivery high dose required and some time not enough dose at the site, not got a proper result. To overcome this problem, site targeted formulation which was prepared minimum dose and gives sustain release of drug. By using hot method metronidazole containing in-situ gel was prepared using Gellan gum as an polymer. Gellan gum was selected after the comparision between HPMC and Na-CMC. Gellan gum containing in-situ gel gives higher drug content and it is required for site targeted formulation. A1 to A10 batches were taken for optimization of polymer and floating agent concentration. In that A6 batch optimized based on viscosity, gelling capacity and %CDR. It gives sustained drug release till 9 hours. After applying 2^3 full factorial design, 9 batches were taken and from that F7 batch was optimized based on viscosity, % drug content and % drug release. Metronidazole containing floating in-situ gel was successfully prepared by hot method.

Keywords: H. pylori, metronidazole, in-situ gel, gellan gum, floating agent.