

FORMULATION OF COLON VECTORIZED MEDICINES

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Introduction

Vectorized drugs release into the colon is required for the local treatment of various diseases. The purpose of a vectorized delivery system consists in protection of the active substance from the action of gastric and intestinal juice and to release the drug to the site of action.

Keywords: colon, treatment, vector release, formulation.

Purpose

Study of the literature in order to highlight the types of systems and excipients susceptible to colon delivery.

Material and methods

Bibliographic study of international medical and pharmaceutical journals in electronic databases (PubMed and Hinari), on specific transport systems in the colon and the excipients used in their formulation.

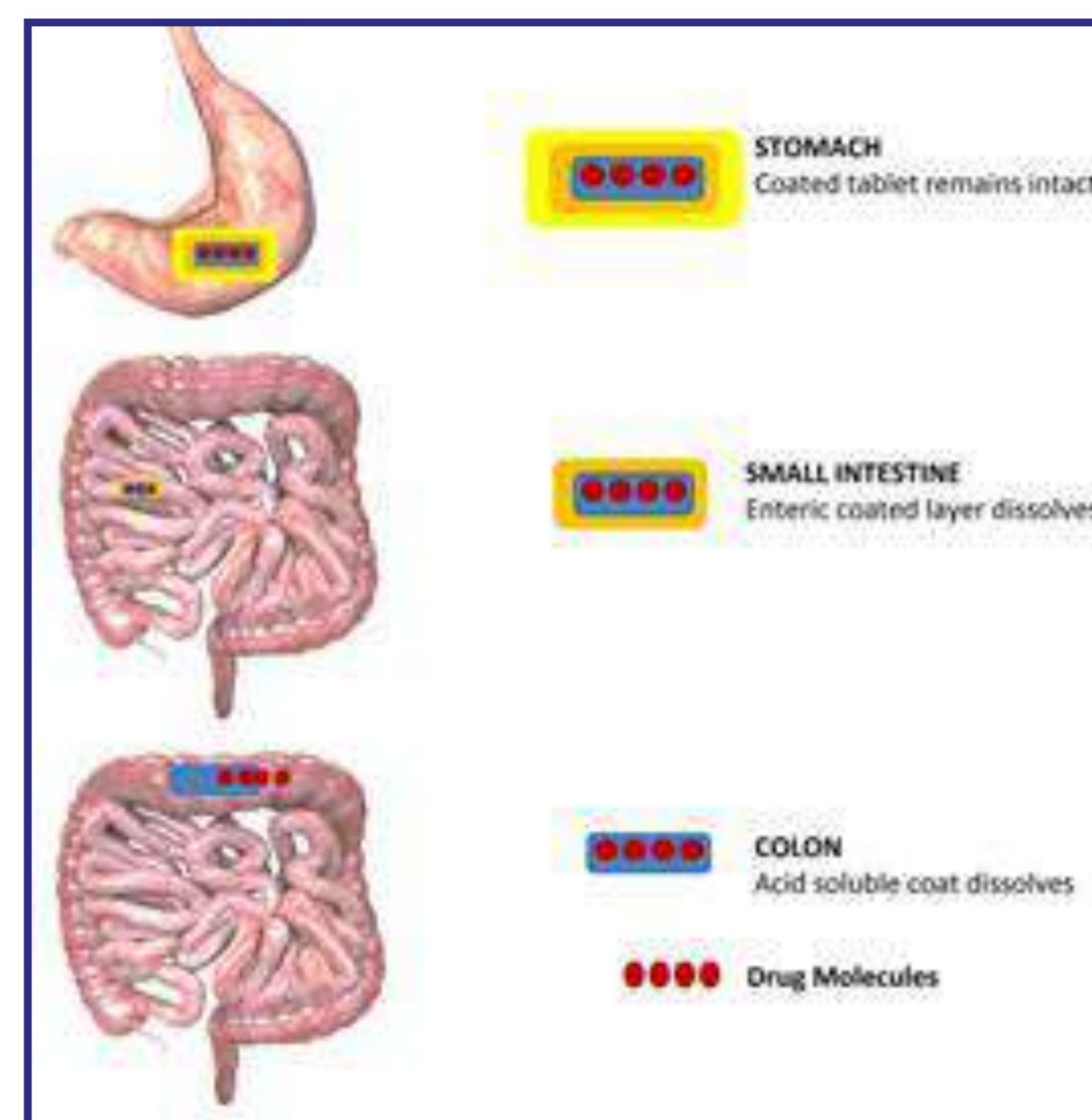


Fig.1. Colon target drug delivery

https://www.researchgate.net/figure/Colon-targeted-drug-delivery_fig1_315863324

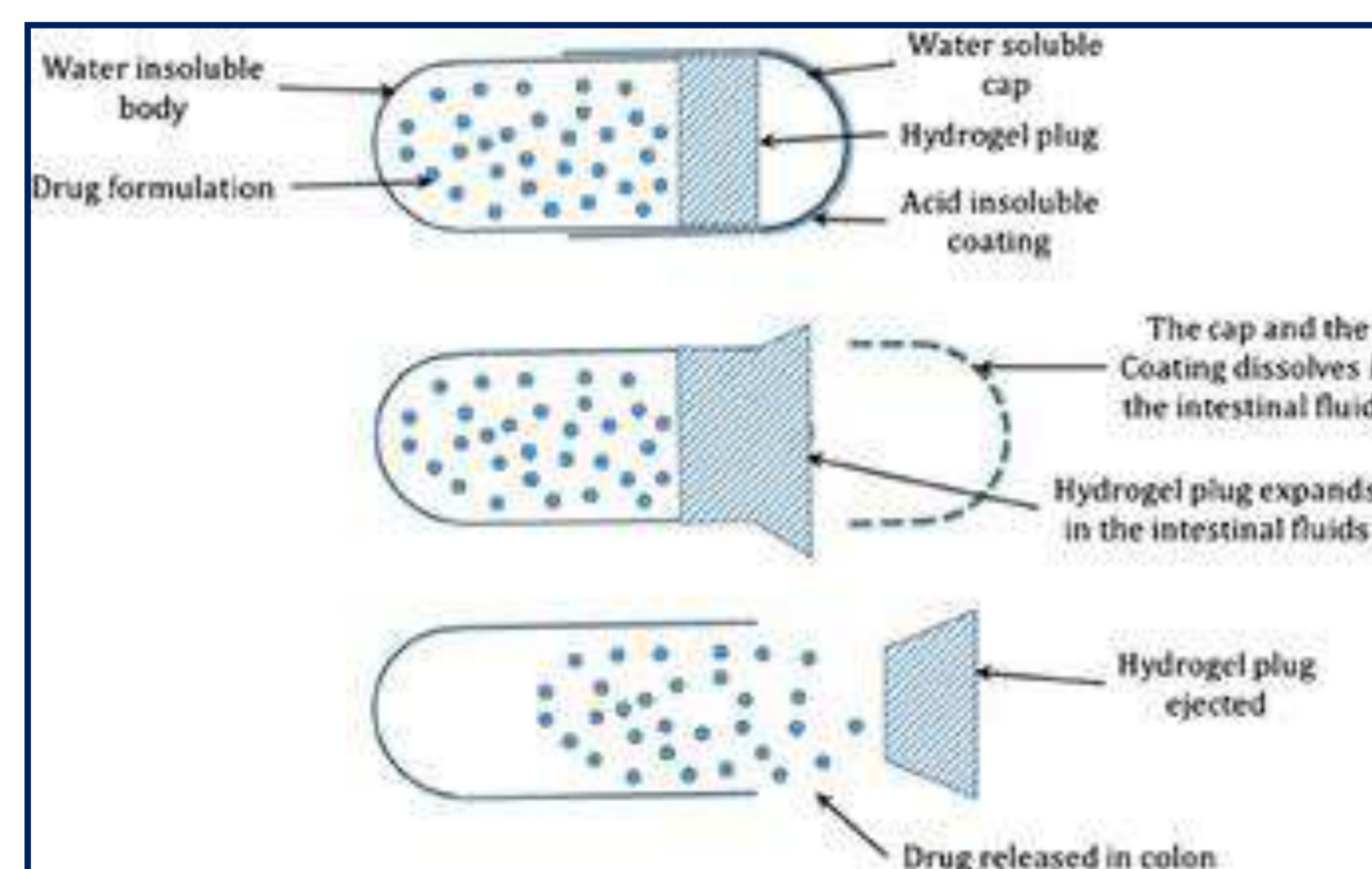


Fig.2. Schematic representation of the mechanism of the pulsincap colon-targeted drug delivery system

https://www.researchgate.net/figure_fig3_278159784

Results

Due to its high water absorption capacity, the content of the colon are considerably viscous, the more than 400 species of bacteria cause various reactions such as azoreduction and enzymatic cleavage, and they are responsible for the metabolism of many drugs. The transport of drugs in the colon (fig.1) can be done using different systems, processes and formulation excipients: pH-dependent polymers (6.6-7.0); delayed release systems (after 5-6 hours); microbiologically biodegradable polymers; enzymatically hydrolyzable drug precursors; azopolymers; polysaccharide (chitosan); osmotic systems with controlled release (fig.2) (OROS-CT, push pull).

Conclusions

The formulation of therapeutic systems with the use of new excipients, allows the localization of the action in the colon, thus contributing to the optimization of pharmacotherapy in this segment of gastrointestinal tract.