Nov 7th, 4:15 PM - 5:30 PM

Improving the palatability of colonoscopy preparations

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Abstract Submission

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Colorectal cancer (CRC) is the second leading cause of cancer-related deaths in the United States. The most reliable screening method of CRC is a colonoscopy which requires a 4-Liter polymer with electrolytes preparation. Two in five patients are non-compliant to their colonoscopy schedules, with many patients who abstain reporting refusal due to significant discomfort associated with this preparation. Furthermore, there are distinct gender differences in the tolerance of colonoscopy preparations in male and female populations. We hypothesize the differences in clinic are a result of toxic effects of the drug associated with poor mixing by individual patients. PEG, the drug, is approved by the FDA for use in medical devices and has been recognized for many years as a biocompatible polymer but few studies have truly studied the short-term and long-term effects of high concentrations of PEG. We studied the toxic effects of the common preparations over a time frame of 2 hours, 12 hours, 24 hours, and 48 hours and found that at higher concentrations of the drug, more cells were killed. We have developed an oral capsule that dissolves in stomach acid to control the release of PEG – accurately controlling the amount of drug that is ingested by patients and reducing adverse effects associated with the taste colonoscopy preparations. We have looked at and evaluated the capsules for chemical content and tested them with cells to confirm their safety.