Soft drink could enhance effects of an anti-cancer drug

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Experiments with an artificial stomach suggest that a popular lemon-lime soft drink could play an unexpected role in improving the effectiveness of an oral anticancer drug. The experiments produced evidence that patients will absorb more of the unnamed drug, tested in Phase I in clinical trials, when taken with "flat" or degassed Sprite. The study appears in ACS' *Molecular Pharmaceutics*.

Faraj Atassi and colleagues note that efforts are underway to develop more anticancer medications that patients can take by mouth. However, biological variations among patients — due to variations in stomach acidity and other factors — can reduce the effectiveness of oral anticancer drugs. Such was the case with the unnamed anticancer drug in the study, identified only as "Compound X." There were wide differences in how the drug was absorbed in the first patients who took it.

The scientists combined Compound X with Captisol, a substance that helps improve the solubility of drug ingredients, and turned to the artificial stomach. That glass-and-plastic device is used to study how drugs and foods dissolve through the GI tract. They showed that Sprite seemed to control stomach acidity in a way likely to allow greater absorption of the drug into the body. Based on the results, the scientists suggest that patients in future clinical trials take the drug with Sprite.

More information: "Use of Artificial Stomach-Duodenum Model for Investigation of Dosing Fluid Effect on Clinical Trial Variability",

Molecular Pharmaceutics.

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