

Grapefruit-midazolam interaction varies with juice characteristics

August 15 2016



(HealthDay)—The interaction between grapefruit juice and midazolam

varies based on grapefruit juice-related characteristics such as the amount of furanocoumarin, according to a study published online Aug. 9 in the *Journal of Clinical Pharmacology*.

Marina Kawaguchi-Suzuki, Pharm.D., Ph.D., from the University of Florida in Gainesville, and colleagues conducted a trial involving 12 healthy volunteers to examine the effect of regular [grapefruit juice](#) (RGJ) and a novel, low furanocoumarin hybrid grapefruit juice (HGJ) on the metabolism of oral midazolam, compared with water as a control.

The researchers found that the point estimate for the RGJ/water midazolam area under the curve (AUC) geometric mean ratio was 1.22 percent. The point estimate for the HGJ/water midazolam AUC ratio was within the bioequivalence range of 80 to 125 percent, indicating no interaction. In a systematic review of the evidence of the pharmacokinetic alteration of midazolam by grapefruit juice, most studies showed alteration in midazolam pharmacokinetics, supporting CYP3A activity inhibition as a likely mechanism; however, there was wide variation in the cohorts included and extent of pharmacokinetic interaction.

"The current study indicated grapefruit juice-drug interaction varies substantially based on patient characteristics and/or grapefruit juice product-related factors, including the amount of furanocoumarin constituents present in the juice," the authors write.

One author was an inventor on patent applications for hybrid grapefruit 914.

More information: [Abstract](#)
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Citation: Grapefruit-midazolam interaction varies with juice characteristics (2016, August 15) retrieved 20 March 2024 from <https://medicalxpress.com/news/2016-08-grapefruit-midazolam-interaction-varies-juice-characteristics.html>

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