



CyberSearch

QUICK CLICKS TO ANSWER CLINICAL QUESTIONS

Grapefruit

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My most recent CyberSearch challenge came from a colleague who had just started to take simvastatin. He had been a long-time lover of grapefruit and grapefruit juice, but had stopped having them in the morning because he was concerned about grapefruit's effect on his cytochrome P450 enzyme system.

For some reason, grapefruit slows down the P450 enzymes that normally help to chew up statins and other drugs. By distracting the enzymes with grapefruit, other medications can circulate in the blood at higher than desirable levels. (Some hospitals have removed grapefruit juice from their patient menus for this reason).

Question

My colleague's question: Is it all right for him to have grapefruit juice in the morning if he takes his pills in the evenings? He tells me he is taking 40 mg of the simvastatin.

I decided to compare several approaches to answer this question. First, I did a MEDLINE search. I went to PubMed (it has a cumbersome URL: <http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?db=PubMed>). When I am feeling lazy, or am at a computer without bookmarks, I just type "PubMed" into www.google.com.

At the search screen, I typed in "grapefruit, statins." I got one hit: a review on "Clinical pharmacokinetics." The abstract was long and dense, and there was no option for clicking my way to a full-text version. No quick answer here.

I clicked "back" to the search screen again and typed in "grapefruit drug interactions." Whoa! About 141 hits this time. The titles on the first page referred to many drug interactions apart from statins. Too much information. Feeling a bit overwhelmed, I went "back" one last time and tried "grapefruit juice, simvastatin." Pay dirt; six hits. I thought I had my answer.

Except I did not, really. As I scanned through the abstracts, I saw that most of the studies looked at

double-strength grapefruit juice and high doses of statins. I had not found a "real world" answer to my question: Is it all right to drink a standard glass of grapefruit juice 12 hours after taking 40 mg of simvastatin?

This hunt had already exceeded the amount of time I considered realistic for a "quick and dirty" Internet search. It was time, however, for the next part of my comparison. I went off to Google.

First, I tried "grapefruit and statins." Many hits. All seemed to say "avoid drinking grapefruit juice." None answered the specific question. I did learn that pravastatin does not seem to be affected by the interaction (worth considering for a die-hard grapefruit juice lover with hyperlipidemia).

Next I tried "grapefruit drug interactions." The first site listed was the Grapefruit-Juice Drug Interactions home page (<http://www.powernetdesign.com/grapefruit/>). I found the site, which has been mounted by a pharmacist in Vancouver, BC, easy to navigate and well referenced.

Answer

I also found an answer to my question that satisfied me. In a section called "Clinical interactions and their significance," I read about studies done with normal doses of statins (taken in the evening) and "real life" amounts of grapefruit juice taken in the morning. Although the grapefruit does cause a small rise in blood levels of the statins, it is a significantly smaller rise than that reported in studies that used three times the daily dose of double-strength grapefruit juice. And they showed not enough of a rise to worry about. If I were counseling patients, I would tell them that, as long as they took their pills 12 hours before drinking a 200-mL glass of grapefruit juice, they would be fine.

Getting to the bottom line on this question took more time than I would normally want to invest. I invite anyone who has found a quicker way to this information to write and let me know what strategy you used! ❖

Do you have questions about how to use the Internet for clinical practice? Have you found some effective cyber-search strategies that you would like to share with readers of *Canadian Family Physician*? Questions, dilemmas, and solutions are all welcome. E-mail me at risdonc@mcmaster.ca.

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