Q: What is the best time of day to administer the statins?

A: Hydroxymethylglutaryl-coenzyme A (HMG-CoA) reductase inhibitors, also referred to as statins, are some of the most frequently prescribed drugs in the world. They not only reduce low-density lipoprotein cholesterol (LDL-C) levels and, to a lesser extent triglycerides, but also decrease markers (e.g. C-reactive protein; CRP) of inflammation. Although the drugs possess many similarities, differences do exist in labeled indications, ability to lower LDL-C, frequency of some adverse effects, potential for drug interaction, and timing of administration. Peak cholesterol synthesis appears to occur in the early morning hours, generally between midnight and 3 am. Drugs such as lovastatin, simvastatin, and fluvastatin have relatively short elimination half-lives and their labeling recommends they be taken in the evening. On the other hand, atorvastatin, rosuvastatin, and pravastatin, along with their metabolites, possess half-lives of twenty or more hours. Labeling for these three agents advises that they be administered at any time of the day. Some publications suggest that statins are generally most effective when taken in the evening. A relatively recent review of the literature on this topic indicates there is sufficient data to support a greater effect of simvastatin on LDL-C levels if it is taken in the evening rather than the morning. The authors also concluded that available data suggests atorvastatin can be administered during any period of the day. A statistically significant difference in LDL-C values was not observed for statins such as lovastatin, pravastatin, or rosuvastatin; however the authors indicated a trend toward lower levels when these drugs were given in the evening. Based on current data, it would seem appropriate to continue to recommend that statins with short half-lives (simvastatin, lovastatin, and fluvastatin) be administered in the evening while those with more prolonged half-lives (atorvastatin, pravastatin, and rosuvastatin) can be taken at any time of the day.

References:

- Do all statins need to be taken in the evening? Pharmacist’s Letter/Prescriber’s Letter 2003;19(12):191206.

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