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What to Do About Patiromer Drug Interactions

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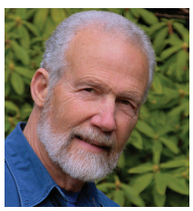

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Hyperkalemia can be a persistent problem for a variety of patients, such as those with chronic kidney disease, diabetes, or heart failure (who are receiving hyperkalemic drugs, such as angiotensin-converting enzyme inhibitors, angiotensin-receptor blockers, and potassium-sparing diuretics). The FDA has approved a new potassium-binding polymer, patiromer (Veltassa), which has proven to be effective in treating hyperkalemia. Initial studies suggest it may be safer than the previous exchange used to treat hyperkalemia, sodium polystyrene sulfonate, but more extensive clinical experience with patiromer will be needed to determine its safety relative to sodium polystyrene sulfonate.

Patiromer Binding to Other Drugs

The product information for patiromer states that in vitro studies found patiromer to bind with about half of the medications that were tested. The specific drugs that were bound or not bound, however, were not listed. The researchers acknowledged that no drug interaction studies of patiromer have been conducted in humans.

Official Recommendations

The product information for patiromer states, in a boxed warning, that other orally administered drugs should be given at least 6 hours before or 6 hours after patiromer is given. The information further states that if it is not possible to adequately separate doses of patiromer from another drug, either patiromer or the other drug should be avoided.

Discussion

It is difficult to interpret the clinical importance of the in vitro binding studies of patiromer with other drugs. The findings do raise the possibility that when other drugs are given with patiromer, their absorption may be reduced and their efficacy may be compromised. The absence of studies in humans, however, raises a number of questions. It seems likely that, as clinical studies of patiromer drug–drug interactions are conducted, some drugs will be found to interact, and others will not. Given the fact that about half of the drugs did not bind with patiromer in in vitro studies, one might assume that patiromer is not a nonselective binder of drugs in general.

> Orally administered drugs should be given at least 6 hours before or 6 hours after patiromer is given.

The recommendation that no other drug should be given within 6 hours before or after patiromer is given displays an abundance of caution. Studies of drug interactions based on binding in the gut have been performed for over half a century, and most of them have shown that absorption of the affected drug is normal or nearly normal when it is given 2 hours before or 4 to 6 hours after the binding agent. Apparently, most drugs are emptied from the stomach and adequately absorbed from the small intestine in the 2 hours before the binding agent arrives in the gut. No evidence is given to suggest why this pattern should be any different with patiromer.

One should also keep in mind that for drugs such as warfarin that undergo enterohepatic circulation, binding interactions may occur to some extent no matter how much the drug is separated from the binding agent. In this case, however, separating doses of the drug from the binding agent is likely to at least reduce the magnitude of the interaction.

Summary

In vitro studies have shown patiromer to bind with many drugs, so the product information warns strongly that any other drug should be given at least 6 hours before or 6 hours after patiromer. Based on many previous drug interaction studies involving other binding agents, it seems likely that clinical studies will eventually show that giving other drugs at least 2 hours before or 4 to 6 hours after patiromer will circumvent the interactions. Until studies in humans are available, however, the safest course is to follow the recommendations in the product information. If one decides that patiromer and another drug are needed, and it is not possible to separate the doses by 6 hours, patients who receive the drugs should be monitored closely for evidence of reduced drug effect ■

Drs. Horn and Hansten are both professors of pharmacy at the University of Washington School of Pharmacy. For an electronic version of this article, including references, if any, visit hanstenandhorn.com.