Chewing gum helps treat hyperphosphatemia in kidney disease patients

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Chewing gum made with a phosphate-binding ingredient can help treat high phosphate levels in dialysis patients with chronic kidney disease (CKD), according to a study appearing in the March 2009 issue of the Journal of the American Society Nephrology (JASN). The results suggest that this simple measure could maintain proper phosphate levels and help prevent cardiovascular disease in these patients.

Hyperphosphatemia (high levels of phosphate in the blood) commonly occurs in CKD patients on dialysis. Even when patients take medications to reduce phosphate acquired through their diet, about half of them cannot reduce phosphate to recommended levels.

Because patients with hyperphosphatemia also have high levels of phosphate in their saliva, researchers tested whether there might be a benefit to binding salivary phosphate during periods of fasting, in addition to using phosphate binders with meals. Vincenzo Savica, MD, of the University of Messina, and Lorenzo A. Cal? MD, PhD, of the University of Padova, Italy and their colleagues recruited 13 dialysis patients with high blood phosphate levels to chew 20 mg of phosphate-binding chewing gum twice daily for two weeks between meals, in addition to their prescribed phosphate-binding regimen.

Dr. Savica and Dr. Cal?'s team found that salivary phosphate and blood phosphate levels significantly decreased during the first week of chewing, and by the end of two weeks, salivary phosphate decreased 55% and blood phosphate decreased 31% from levels measured at the start of the study. Salivary phosphate returned to its original level by day 15 after discontinuing the chewing gum, whereas blood phosphate took 30 days to return to its original value.

While these observations are preliminary and require confirmation in a randomized, double blind, placebo controlled study with more participants, the findings indicate that this chewing regimen might help control phosphate levels in patients with CKD. "Adding salivary phosphate binding to traditional phosphate binders could be a useful approach for improving treatment of hyperphosphatemia in hemodialysis patients," the authors concluded.

More information: The article, entitled "Salivary Phosphate-Binding Chewing Gum Reduces Hyperphosphatemia in Dialysis Patients," is currently online and will appear in the March 2009 print issue of JASN, doi 10.1681/ASN.2008020130.

Source: American Society of Nephrology