## SOJTHWESTERN NEWS

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## UT SOUTHWESTERN STUDIES EFFECT OF LOW- CARBOHYDRATE DIET ON KIDNEY-STONE FORMATION AND BONE LOSS

DALLAS - March 24, 2000 - A resurgence in interest in the high-protein, low-carbohydrate diet has prompted two doctors at UT Southwestern Medical Center at Dallas to zero in on the fad diet to see if it increases the risk of kidney stones and loss of bone.

Drs. Shalini Reddy and Chia-Ying Wang, both assistant professors of internal medicine, hope to complete the first phase of a two-phase study by the end of November.

They decided to examine the high-protein, low-carbohydrate diet after meeting with Dr. Charles Pak, director of the Center for Mineral Metabolism and Clinical Research at UT Southwestern and assistant dean for clinical investigation. Pak had learned that some patients who had been on the regime were being diagnosed with kidney stones.

People may lose weight, "but it's not a healthy way to live," Reddy said of the proteinheavy diet.

The study will provide information on the subjects' level of acidosis, which is caused by the enhanced production of ketone bodies. Ketone bodies are found in the blood and urine because of excess oxidation of fatty acids by the liver, something that can happen in starvation, in pregnancy or in diabetes.

One factor that increases the kidney-stone risk in the low-carbohydrate diet is the acidic content of animal flesh and the lack of alkaline foods in the diet, Reddy said.

In the first phase of the study subjects will be asked to eat a regular diet for two weeks followed by two weeks of a highly restrictive diet that has less than 20 grams of carbohydrates. Participants then will eat a less-restrictive diet for the final four weeks.

During the last five days of each of these stages, subjects will stay overnight in the General Clinical Research Center (GCRC) in Parkland Memorial Hospital so that testing can be done.

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If the doctors' suspicions about ketosis are confirmed in the first phase, Reddy and Wang will begin a second phase. That phase will look at countermeasures to the increased risk of kidney stones.

"There's always a trade-off," Wang said. "The trade-off here is brittle bones and the formation of kidney stones."

Dr. Charles Pak said the much-needed study "promises to provide not only an objective look at the potential dangers of a high protein-low carbohydrate diet, but also yield a countermeasure that would allow a person to take the diet and derive the benefit of losing weight without harmful side effects."

Results of Phase I of the study are expected to be available by early 2001.

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