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## *Interpreting Research for the Kidney Patient* - May, 2006

Most diabetics have protein in their urine (proteinuria) after 25 years and this proteinuria is a known indicator of the rapid progression of kidney failure. In fact, patients have 2-6 years before going on dialysis once they have diabetic nephropathy (more than 1/3 gram of protein in the urine per day). The most often used therapy in addition to diabetes treatment is aggressive control of the accompanying high blood pressure with ACE inhibitors (ACEi). Unfortunately, ACEi alone showed an increased rate of kidney failure after 3 years.[1] In our last newsletter we reviewed a study showing ACEi were very effective in lowering proteinuria when coupled with a low protein diet (LPD).[2]

Dr. Vladimir Teplan presented data about the difference in those patients using keto/amino acids with and without both LPD and ACEi at a recent congress on the progression of renal disease.[3] The goal of his study was to lower proteinuria from 3.5 to 1 gram in 24 hours. He said, "Unfortunately, we didn't reach the goal, but we did get great results." After 3 years on the LPD (in this case 0.6 grams of protein per kg of ideal body weight per day or about 40 grams for the average height person), ACEi and keto/amino acids, Dr. Teplan was able to reduce proteinuria from 3.5 to 1.7 grams of protein per day.

The group which did not take keto/amino acids did not do nearly as well. After 12 months there was no decrease in proteinuria for those on his LPD and ACEi. There was a difference in years 2 and 3, however, the reduction at 3 years was from 3.7 to 2.9 grams of protein in the urine in 24 hours. Now that is a significant reduction and far superior to ACEi alone, but compared to the inclusion of the keto/amino acids the results were terrible. Most notable for the group taking the supplement was the steady decrease in proteinuria throughout the 3 years of the trial – at 12 months, the urinary protein was 3.9 in the non-supplement group and 2.7 in the keto/amino acid supplement group. That's 30% better with the keto/amino acid supplement.

The overall result after three years **– no one in the trial had seen progression of the disease – the patients who were supplemented with the keto/amino acids had lowered their urinary protein output by 53%.** What a difference! At this rate, they would never go on dialysis. The GFR for the patients on the supplements had remained level for the keto/amino acid supplemented patients but had decreased for those on the LPD and ACEi from 34 to 24.

When you don't take your amino acids as suggested, you are not going to do as well with your kidney disease. The results above show you why. They are an important key in providing you with a longer life, less fatigue and nausea and most importantly better kidney function allowing you to avoid dialysis.

[1] Suissa S, Hutchinson T, Brophy JM, Kezouh A. ACE-inhibitor use and the long-term risk of renal failure in diabetes. Kidney Int. 2006 Mar;69(5):913-9.

[2]Gansevoort RT, de Zeeuw D, de Jong PE.Additive antiproteinuric effect of ACE inhibition and a low-protein diet in human renal disease. Nephrol Dial Transplant. 1995;10(4):497-504.

[3] Teplan, V. Importance of Keto Acid Therapy in Diabetic Nephropathy. XIII Internationl Congress on Nutrition and Metabolism in Renal Disease, Merida, Yucatan, Mexico. Mar 2, 2006