

Simenhoff, M.L., & Dunn, S.R., (1996). Altered Gut Flora in Uremia. Journal of Renal Nutrition, 6 (2), 68-74.

Abstract

The objective of this review is to show the influence of altered gut flora in patients with chronic renal failure (CRF). This flora produces toxic metabolites that can be reduced by a biological intervention that acts through modification of bacterial overgrowth in the small intestine. The toxic metabolites are responsible for two major problems: they cause general CRF symptoms as well as target organ dysfunction especially in the brain, leading to neurological abnormalities, and they may interfere with the absorption of digested nutrients from the small intestines that promote normal nutrition. One group of toxic compounds [the methylamines (MA)] has been used as a biochemical marker to monitor the course of CRF. The origin of these MAs is choline and lecithin, important constituents of the normal diet and bile. Based on the results with nonabsorbable antibiotics and a pilot study using freeze-dried *Lactobacillus acidophilus* (LBA), amines (especially dimethylamine [DMA] and the carcinogen, nitrosodimethylamine [NDMA]), and nutritional parameters (appetite, caloric intake, weight, anthropometrics, and serum albumin) were measured in an extended study in dialysis patients using LBA for at least 1 month. Results indicate a uniform biochemical response with significant decreases in DMA and NDMA. This type of intervention produces the only reported reversal of objective neurological dysfunction (electroencephalographic change, asterixis) other than dialysis and transplantation. Longer-term LBA administration also improved nutritional parameters with caloric intake and weight assuming statistical significance. Usage is particularly attractive because LBA is safe, easy to administer, abundantly available and inexpensive.