LETTER TO THE EDITOR

Exploring the role of ketogenic diet in ADPKD treatment: A promising avenue

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Dear Madam, This letter intends to highlight the importance of the keto diet in the treatment and slowing the progression of Autosomal Dominant Polycystic Kidney Disease (ADPKD). We aim to increase awareness about this newly advertised nutrition plan for ADPKD patients.

Autosomal Dominant Polycystic Kidney Disease (ADPKD) is a disease that continuously expands multiple cysts in both kidneys. Clinical symptoms (Flanks pain, haematuria and hypertension) mostly develop in the fourth decade of life and around 50% of almost 12 million worldwide affected people will go into end-stage renal disease (ESRD) in their sixth decade of their life.[1] In 2015, EMA approved the use of Vasopressin receptor antagonists, i.e., tolvaptan, for the treatment of ADPKD in adults with CKD stages 1-3 and with rapidly progressive disease.[2] However, these drugs are associated with side effects such as transient extracellular volume reduction and continuous symptoms of increased aquaresis, liver toxicity, potential risks during pregnancy or breastfeeding and drug interactions.[2] Moreover, strict criteria for patient selection such as GFR values, changes in GFR, patient age and cost-effectiveness needed to be fulfilled before commencing this particular therapy.[2]

The ongoing advancements in medical sciences have recently provided evidence that introducing the keto diet in patients with ADPKD can lead to a decline in the reduction rate of GFR and to a reduced rate of increasing kidney volume.[3,4] A small study published in November 2023 compared the effects of the keto diet (KD) with control and water fasting groups.[5] KD group surprisingly showed a decrease in height-adjusted total kidney volume by 0.55% and height-adjusted total liver volume by 4.7%.[5] The most important observed effect was an increase in eGFR by 5.5% compared to the other groups, which showed a decrease in eGFR.[5] Serum levels of Beta Hydroxy Butyrate were used to evaluate the ketosis state.[5] The most commonly reported side effect was transiently occurring keto flu. However, one patient developed appendicitis and one patient also had nephrolithiasis.[5] This three-month duration study overall shows good outcomes in ADPKD patients.

We encourage physicians and the broader community of nephrologists to prioritise and carry out larger-scale randomised controlled trials based on the previously mentioned study using the keto diet in the management of ADPKD patients. This will require not only the aggressive participation of physicians in carrying out the research study but also the active education of the general public about this newly introduced nutrition plan. We believe that this will open new doors in the treatment of such disease which was previously considered untreatable.

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