

Parma, November 18, 2019

High-protein diets may harm your kidneys

High protein intake is believed to be healthy, but it may pave the way to irreversible kidney failure. The risk of the kidneys being harmed by a diet rich in proteins is especially high in people with a pre-existing low-grade chronic kidney disease, of which most of the affected people are unaware. "It is essential that people know there is another side to high-protein diets."

A high-protein diet is believed to be healthy. It is suggested that it keeps you fit, helps you to lose fat and to retain lean muscle mass. Avoiding carbohydrates and substituting them with proteins has become a leading dogma for all those who care for their looks and health.

Kamyar Kalantar-Zadeh, Holly M Kramer and Denis Fouque [1] now consider it necessary to question this belief and to put a tough warning label on our modern eating habits. "We may save calories, but we may also risk the health of our kidneys." The promise of saving calories and losing weight is why a high-protein diet is very often recommended to people who suffer from diabetes or who are obese. But the crux of the matter is that these groups of people are especially vulnerable to the kidney-harming effects of a high protein intake. "A high-protein diet induces glomerular hyperfiltration, which, according to our current state of knowledge, may boost a pre-existing low-grade chronic kidney disease, which, by the way, is often prevalent in people with diabetes. It might even increase the risk of de novo kidney diseases", explains Prof Fouque, past-chair of the European Renal Nutrition Working Group. "To put it in a nutshell: To recommend a high-protein diet to an overweight diabetes patient may indeed result in loss of weight, but also in a severe loss of kidney function. We want one, but we also get the other."

In view of the rising number of people affected by type-2 diabetes, and the fact that at least 30% of patients with diabetes suffer from an underlying chronic kidney disease, the experts believe it is high time that the diabetes population and the general public are warned. "By advising people – especially those with a high risk for chronic kidney disease, namely patients with diabetes, obese people, people with a solitary kidney and probably even elderly people – to eat a protein-rich diet, we are ringing the death bell for their

kidney health and bringing them a big step closer to needing renal replacement therapy”, says Fouque. This is the essence of the editorial by the three authors mentioned above, which has been published along with two new studies on that topic in the current issue of NDT. The analysis of a Dutch cohort [2] showed a strictly linear association between daily protein intake and decline in kidney function. The higher the intake, the faster the decline. The result of an epidemiological study conducted in South Korea [3] points to the same direction: Persons with the highest protein intake had a 1.3 higher risk of faster GFR loss. The finding itself is not new. Many previous studies have shown that a high-protein diet may harm kidney function, and this is why patients with a known early-stage chronic kidney disease are recommended a low-protein diet by their nephrologists. As long as it is unclear whether it makes any difference if the proteins are animal- or plant-based, the recommendation is to abstain in general from a high protein intake.

However, as Fouque and his colleagues point out, the problem are the people who have a mild chronic kidney disease which they are totally unaware of and who follow the trend of eating a protein-rich diet because they believe it is healthy. “These people do not know that they are taking the fast lane to irreversible kidney failure”. Prof Fouque and his ERA-EDTA colleagues want to start an information campaign and raise awareness for this problem among the general population. “It is essential that people know there is another side to high-protein diets, and that incipient kidney disease should always be excluded before one changes one eating habits and adopts a high-protein diet.”

[1] Kamyar Kalantar-Zadeh, Holly M Kramer, Denis Fouque. High-protein diet is bad for kidney health: unleashing the taboo. *Nephrology Dialysis Transplantation*, gzf216, <https://doi.org/10.1093/ndt/gfz216>

[2] Esmeijer K, Geleijnse JM, de Fijter JW et al. Dietary protein intake and kidney function decline after myocardial infarction: the Alpha Omega Cohort. *Nephrology Dialysis Transplantation*, gzf015, <https://doi.org/10.1093/ndt/gfz015>

[3] Jhee J-H, Kee Y-K, Park S et al. High-protein diet with renal hyperfiltration is associated with rapid decline rate of renal function: community based prospective cohort study. *Nephrol Dial Transplant* 2019. <https://doi.org/10.1093/ndt/gfz115>

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