

LETTERS TO THE EDITOR

High-Protein Diets: Putting Rumors to Rest

"One could not be a successful scientist without realizing that, in contrast to the popular conception supported by newspapers and mothers of scientists, a goodly number of scientists are not only narrow-minded and dull, but also just stupid."

J. D. Watson, *The Double Helix*

I read with great interest the study by Kappagoda et al. (1) on high-protein diets. Unfortunately, they quoted uncritically the American Heart Association (AHA) Nutrition Committee's statement on dietary protein and weight reduction, which states, "Individuals who follow these [high-protein] diets are at risk for . . . potential cardiac, renal, bone, and liver abnormalities overall."

Liver abnormalities? That is physiological nonsense. Protein is needed not only to promote liver tissue repair, but also to provide lipotropic agents such as methionine and choline for the conversion of fats to lipoprotein for removal from the liver, thus preventing fatty infiltration (2). And when it comes to kidney function, there are *no* data in the scientific literature demonstrating that *healthy* kidneys will be damaged by the increased demands of protein consumed in quantities above the recommended dietary allowance (RDA) (2). Furthermore, real-world examples support this contention because kidney problems are *nonexistent* in the bodybuilding community in which high-protein intake has been the norm for over half a century. The AHA Nutrition Committee also suggests that high-protein intake may increase blood pressure. However, there is *no* scientific evidence whatsoever supporting this contention. In fact, a *negative* correlation has been shown between protein intake and systolic and diastolic blood pressures in several epidemiological surveys (2).

Further, the AHA Nutrition Committee claims that high-protein intake has detrimental effects on bone health. In reality, dietary protein increases circulating insulin-like growth factor (IGF)-1, a growth factor believed to play an important role in bone formation. Indeed, several studies have examined the impact of protein supplementation in patients with recent hip fractures. For example, Schurch et al. (3) reported that supplementation with 20 g protein/day for six months increased blood IGF levels and *reduced* the rate of bone loss in the contralateral hip during the year after the fracture. Finally, the AHA Nutrition Committee ignores the fact that energy restriction increases protein requirements. It has been known for about a half century that inadequate energy intake leads to increased protein needs (2). Thus, when trying to lose weight, it is important to keep protein levels high. The reduction in calories needed to lose weight should be at the expense of the fats and carbohydrates, not protein.

In summary, the AHA Nutrition Committee's statement on dietary protein contains misleading and incorrect infor-

mation. Certainly, such public warnings should be based on a thorough analysis of the scientific literature, not unsubstantiated fears and misrepresentations. For a more detailed review, see my recent paper in the *Sports Nutrition Review Journal* (2).

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REFERENCES

1. Kappagoda CT, Hyson DA, Amsterdam EA. Low-carbohydrate-high-protein diets: is there a place for them in clinical cardiology? *J Am Coll Cardiol* 2004;43:725-30.
2. Manninen AH. High-protein weight loss diets and purported adverse effects: where is the evidence? *Sports Nutr Rev J* 2004;1:45-51.
3. Schurch MA, Rizzoli R, Slosman D, et al. Protein supplements increase serum insulin-like growth factor-I levels and attenuate proximal femur bone loss in patients with recent hip fracture: a randomized, double-blind, placebo-controlled trial. *Ann Intern Med* 1998;128:801-9.

REPLY

We appreciate Dr. Manninen's interest in our paper (1). In the process of highlighting the issue of protein intake we believe he has raised the telescope to the Nelsonian blind eye and ignored the main thrust of our position. Our focus was high-protein-low-carbohydrate (Atkins type) diets in the context of clinical cardiology. These diets invariably include significant quantities of saturated fats, cholesterol, and sodium, and they are consistently low in fiber. These are the areas of concern to those who are responsible for caring for patients with cardiovascular disease. Bodybuilders are probably estimable people, but they do not usually constitute a large sector of our practice.

The issue of the actual amount of protein to be consumed daily is a difficult one to resolve. Problems associated with identifying upper limits for protein intake have been covered fully in the report issued by the Food and Nutrition Board of the Institute of Medicine, which is a component of the National Academy of Sciences in the U.S. A detailed reading of this report will provide some insights into difficulties in identifying these limits, and the Board has, quite properly in our view, advocated prudence. The American Heart Association (AHA) Nutrition Committee has also adopted a similar cautious approach. We are uncertain whether the members of these bodies consulted the distaff sides of their families in preparing their respective reports, but we are persuaded that they have indeed reviewed the best available evidence in making their recommendations.