“... beta blocker therapy has been shown to cause... weight gain... and to significantly increase the risk of developing diabetes.”

— Franz Messerli, MD, European Heart Journal, 2003
Beta blockers include drug like atenolol (Tenormin) and propranolol (Inderal).
Hi, this is
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Hotline Editorial

The LIFE study: the straw that should break the camel's back

Franz H. Messerli*

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In the LIFE study, the most recent landmark trial in hypertension,1–3 more than 9000 hypertensive patients were randomized to either a losartan-reliable and more powerful surrogate endpoint for cardiovascular fatal and non-fatal events than blood pressure per se.9,10 What has not clearly been
allow us to explain the discrepancy between cerebral and cardiac events in the losartan arm.\textsuperscript{12}

2. We should not forget that there were small, albeit distinct, differences between the two treatment arms. Although blood pressure seemed to have been reduced to a very similar level, close scrutiny of the blood pressure curves in the diabetic population\textsuperscript{2} shows that systolic pressure was consistently higher and diastolic pressure consistently lower in patients on atenolol compared with those on losartan. This is not surprising since beta-blockers have a negative chronotropic effect and increase stroke volume to some extent, which in turn usually leads to an increase (or to a lesser fall) in pulse pressure than is seen with vasodilatory agents such as losartan which do not affect stroke volume. In the betablocker compared with the losartan group, more patients withdrew from double-blind medication (27.1 vs. 22.6\%; \textit{P}<0.001), whereas fewer proceeded to combination therapy lic hypertension.\textsuperscript{3} However, the statement in this manuscript, “Previous intervention studies in ISH with diuretics or beta-blockers or calcium antagonists or angiotension converting enzyme inhibitors have shown 36\%, 42\% and 38\% reductions in stroke or placebo. A further 40\% reduction in stroke with losartan-based therapy is an important finding”, is disturbing. The authors seemingly want us to believe that had losartan been compared to placebo, a reduction in stroke in the order of magnitude of 80\% would have been achieved. The references that they give for their statements are Syst-Eur, Syst-China, and SHEP. None of these studies documented a stroke reduction with beta-blockers (or ACE inhibitors). Given that in patients with isolated systolic hypertension there was a robust 40\% difference in stroke reduction between losartan and atenolol, there seems to be little need to inflate these findings by a deceptive statement.
sudden death or MI. On the contrary, beta-blocker therapy has been shown to cause systematic weight gain\(^\text{19}\) and to significantly increase the risk of developing diabetes.\(^\text{20}\) Given the known spotty record of beta-blockers in the diabetic population, the superiority of an angiotensin receptor inhibitor

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superiority of losartan over atenolol, Brunner and Gavras\textsuperscript{21} wrote an accompanying editorial with the title, "Angiotensin blockade in hypertension: a promise fulfilled". Mutatis mutandis one could change the title of this editorial to "Beta-blockers in hypertension—a promise broken". This semantic issue notwithstanding, the LIFE study should be considered as the final straw that will break the camel’s back and hopefully motivate physicians to no longer expose their elderly hypertensive patients to the cost, inconvenience, adverse
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Do not be fooled into thinking that just because a drug lowers blood pressure, ...
... or blood sugar...
... or cholesterol...
... that it must be good for you.
This is NOT necessarily so.
The only thing that matter is how the drug affects your Total Risk of Death.
I believe that potassium bicarbonate is vastly superior to beta blockers...
and the other blood pressure medicines...
... for improving health.
I’ve been taking 1000 mg of potassium twice a day (2000 mg per day) in the form of potassium bicarbonate since 2000.
My blood pressure dropped from roughly 140/80 mm Hg to 124/73 mm Hg.
WARNING: Only take potassium under a doctor’s supervision. Too much potassium can kill you.
Summary

Theoretically, we humans should be better adapted physiologically to the diet our ancestors were exposed to during millions of years of hominid evolution than to the diet we have been eating since the agricultural revolution a mere 10,000 years ago, and since industrialization only 200 years ago. Among the many health problems resulting from this mismatch between our genetically determined nutritional requirements and our current diet, some might be a consequence in part of the deficiency of potassium alkali salts (K-base), which are amply present in the plant foods that our ancestors ate in abundance, and the exchange of those salts for sodium chloride (NaCl), which has been incorporated copiously into the contemporary diet, which at the same time is meager in K-base-rich plant foods. Deficiency of K-base in the diet increases the net systemic acid load imposed by the diet. We know that clinically-recognized chronic metabolic acidosis has deleterious effects on the body, including growth retardation in children, decreased muscle and bone mass in adults, and kidney stone formation, and that correction of acidosis can ameliorate those conditions. Is it possible that a lifetime of eating diets that deliver evolutionarily superphysiologic loads of acid to the body contribute to the decrease in bone and muscle mass, and growth hormone secretion, which occur normally with age? That is, are contemporary humans suffering from the consequences of chronic, diet-induced low-grade systemic metabolic acidosis?

Our group has shown that contemporary net acid-producing diets do indeed characteristically produce a low-grade systemic metabolic acidosis in otherwise healthy adult subjects, and that the degree of acidosis increases with age, in relation to the normally occurring age-related decline in renal functional capacity. We also found that neutralization of the diet net acid load with dietary supplements of potassium bicarbonate (KHCO₃) improved calcium and phosphorus balances, reduced bone resorption rates, improved nitrogen balance, and mitigated the normally occurring age-related decline in growth hormone secretion – all without restricting dietary NaCl. Moreover, we found that co-administration of an alkalinizing salt of potassium (potassium citrate) with NaCl prevented NaCl from increasing urinary calcium excretion and bone resorption, as occurred with NaCl administration alone.

Earlier studies estimated dietary acid load from the amount of animal protein in the diet, inasmuch as protein metabolism yields sulfurous acid as an end-product. In cross-cultural epidemiologic studies, Abelow [1] found that hip fracture incidence in older women correlated with animal protein intake, and they suggested a causal relation to the acid load from protein. Those studies did not consider the effect of potential sources of base in the diet. We considered that estimating the net acid load of the diet (i.e., acid minus base) would require considering also the intake of plant foods, many of which are rich sources of K-base, or more precisely base precursors, substances like organic anions that the body metabolizes to bicarbonate. In following up the findings of Abelow et al., we found that plant food intake tended to be protective against hip fracture, and that hip fracture incidence among countries correlated inversely with the ratio of plant-to-animal food intake. These findings were confirmed in a more homogeneous population of white elderly women residents of the U.S. These findings support affirming...

ORIGINAL CONTRIBUTION

Diet, evolution and aging

The pathophysiologic effects of the post-agricultural inversion of the potassium-to-sodium and base-to-chloride ratios in the human diet

They have found that potassium bicarbonate:

• **Reduce muscle loss**
• **Reduces bone loss**
• **Increases growth hormone**
LONG-TERM POTASSIUM SUPPLEMENTATION LOWERS BLOOD PRESSURE IN ELDERLY HYPERTENSIVE SUBJECTS

MD FOTHERBY MD, MRCP, JF POTTER DM, FRCP, University Department of Medicine for the Elderly, The Glenfield Hospital, Leicester

SUMMARY Following a randomised cross-over trial of the effect of a four-week 60 mmol/day potassium supplement versus placebo on blood pressure (BP), eight of the original 18 hypertensive subjects continued with a 48 mmol daily potassium supplement for four months. For these eight subjects 24-h potassium excretion during placebo, one month of 60 mmol and four months of 48 mmol daily potassium supplementation phases was 56 ± 23, 102 ± 28 and 90 ± 35 mmol/24 hours, respectively, and mean 24-h BP following each phase was 160 ± 16/89 ± 11, 147 ± 13/83 ± 12 and 145 ± 14/81 ± 9 mmHg respectively, a significant fall in mean 24-h SBP between four months of potassium supplement and placebo period of 15 ± 13 mmHg (95% CI: 4, 26 mmHg, p=0.02), although the fall in 24-h DBP was not significant (8 ± 11 mmHg, 95% CI: 0, 17 mmHg, p=0.08). Modest increases in dietary potassium intake could have significant effects on lowering BP in the large proportion of elderly subjects with hypertension. (Int J Clin Pract 1997; 51(4): 219-222)
LONG-TERM POTASSIUM SUPPLEMENTATION LOWERS BLOOD PRESSURE IN ELDERLY HYPERTENSIVE

Potassium chloride reduced blood pressure in older people from 160/89 to 145/81 mm Hg.

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SUMMARY Following a randomised cross-over trial of the effect of a four-week 80 mmol/day supplement and placebo period of 15 ± 13 mmHg (95% CI: 4, 26 mmHg, p=0.02), although the fall in 24-h DBP was not significant (8 ± 11 mmHg, 95% CI: 0, 17 mmHg, p=0.08). Modest increases in dietary potassium intake could have significant effects on lowering BP in the large proportion of elderly subjects with hypertension. (Int J Clin Pract 1997; 51(4): 219-222)
Why not try potassium (bicarbonate) first?
Daniel Amen, MD, a psychiatrist and author of “A Magnificent Mind at Any Age”, said on Public Television...
He uses natural treatments “whenever possible”.

— Daniel Amen, MD, psychiatrist
“I use medication in my practice, but it’s NOT the first thing that I use.”

— Daniel Amen, MD, psychiatrist
“I always think about the least toxic, most effective treatment.”

— Daniel Amen, MD, psychiatrist
“And often, with psychiatric conditions I treat them with...”

— Daniel Amen, MD, psychiatrist
“...natural supplements [first]...”

— Daniel Amen, MD, psychiatrist

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“So in my mind, I think, why not at least try that first?”

— Daniel Amen, MD, psychiatrist
I have to ask the same question about blood pressure...
Why not try potassium (bicarbonate) first?