Health Organization and the Joint National Committee on the Prevention, Detection, Evaluation, and Treatment of High Blood Pressure strongly recommend the treatment of systolic hypertension to target values of 140 mm Hg or less in uncomplicated hypertension. Target BP in those with diabetes, kidney failure, or heart failure should be below 130/85 mm Hg.

Thus, Port's conclusions are not supported by his own data or the literature. These authors have violated acceptable academic practice by elevating selected observational data to the level of worldwide practice guidelines while ignoring information from more robust databases and randomized clinical trials. Their conclusions, if followed, would increase the global burden of cardiovascular disease.

Lipid Disorders

Reducing Risk of Stroke and Fracture

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News of possible risk-reducing measures for patients is always welcome. Three studies report on 2 areas of risk reduction: lowering risk of stroke in women by increasing physical activity; diminishing the risk of fractures with the use of statins.

Physical Activity and Risk of Stroke in Women

Hu FB, Stampfer MJ, Colditz GA, et al.
JAMA. 2000;283:2961-2967.

Physical activity has been shown to reduce the risk of coronary heart disease, but its value for lowering the risk of stroke has not been well established. Hu and coworkers report on the association between physical activity and the incidence of stroke in the Nurses' Health Study, a prospective observational study of subjects residing in 11 US states and lasting 8 years (560,087 person-years of follow-up). A total of 72,488 female nurses, aged 40 to 65 years, without evidence of cardiovascular disease, were divided into quintiles of physical activity, based on the hours per week spent in moderate or vigorous recreational activities, such as walking, jogging, bicycling, aerobics. Relative to the lowest quintile of physical activity, the relative risk of all types of stroke in the highest quintile of physical activity was 0.66 (P = .005 across all quintiles), with intermediate risk reductions at lesser levels of physical activity. The reduced stroke risk was observed primarily for ischemic stroke (88% of events had CT or MRI evaluation), with a risk reduction in the highest physical activity group compared with the lowest of 0.52. Insignificant associations between physical activity and subarachnoid hemorrhage or intracerebral hemorrhage were found. The reduction in stroke risk was not limited to those nurses undergoing strenuous physical activity.

After multivariate adjustment, walking was associated with a reduced risk of total stroke (highest to lowest quintile ratio, 0.66). Interestingly, those nurses with the fastest walking paces had the greatest reduction in total and ischemic stroke compared with those with average or casual walking pace. The authors concluded that their data indicate that physical activity, including moderate-intensity exercise such a walking, is associated with substantial reduction in risk of total and ischemic stroke in a dose-dependent manner.

This study is one of several recent reports documenting that physical activity reduces cardiovascular risk. The findings that the benefit is proportional to the time spent exercising and that even intermediate-grade exertion, such as walking, is beneficial will be helpful arguments in inducing patients to exercise more. Whereas many patients are reluctant or unable to undertake strenuous physical activity for cardiovascular or orthopedic reasons, this study documents the benefit of more widely applicable activities such as walking. A reduction in stroke can now be added to the other benefits of physical activity for which there is a consensus on the reduction in coronary heart disease and type 2 diabetes. The protective effect of physical activity is probably mediated through alterations in various risk factors, including reductions in blood pressure, plasma fibrinogen level, and platelet aggregation, and increases in high-density lipoprotein cholesterol and plasma tissue plasminogen activator activity.

The major limitation of this study is its format, it was a prospective observational study rather than a randomized trial. It is always possible that unforeseen confounding factors account for the risk reduction, not the physical activity. Within this limitation, however, we can use this study for additional motivation for our patients to increase their physical activity.

HMG-CoA Reductase Inhibitors and the Risk of Fractures

Meier CR, Schlienger RG, Kraenzlin ME, et al.
JAMA. 2000;283:3205-3210

HMG-CoA Reductase Inhibitors and the Risk of Hip Fractures in Elderly Patients

Wang PS, Solomon DH, Mogun H, Avorn J.
JAMA. 2000;283:3211-3216.

The 3-hydroxy-3-methylglutaryl coenzyme A (HMG-CoA) reductase inhibitors (statins) have become a widely used class of cholesterol-lowering drugs shown to reduce cardiovascular morbidity and mortality in dyslipidemic individuals. In view of their wide use, concerns have been raised regarding their long-term side effects. Two recent articles documented an unexpected and unrelated side benefit—namely, a reduction in the risk of bone fractures. The statins have been shown, experimentally, to increase bone formation and trabecular bone volume in as little as 5 weeks. Other animal studies have shown a decrease in the severity of steroid-induced osteoporosis. Preliminary clinical observations suggested similar effects in man. Now we have stronger clinical evidence.

Meier and coworkers conducted a large, nested, case-control analysis of 28,340 individuals receiving statins and other hypocholesterolemic agents, 13,271 hypercholesterolemic individuals not taking hypocholesterolemic agents, and 50,000 otherwise matched normocholesterolemic individuals, aged 50 to 89 years, followed in the UK-based General Practice Research Database. After controlling for body mass index, smoking, and steroid and estrogen use, a 45% risk reduction of fractures was found in the current statin users. No benefit was found for other hypolipidemic agents, such as fibrates and niacin. The benefit appeared to exist for all types of fractures.

In the companion paper, Wang and associates reported the results of a 4:1 case-control study of 1222 individuals with surgical hip fracture repair in 1994 and 4888 matched controls aged 65 and older. Patients were identified in the New Jersey Medicare and Medicaid or Pharmacy Assistance for the Aged and Disabled programs. The use of statins in the prior 180 days and 3 years was associated with 50% and 43% risk reductions, respectively. Again, no protective effect was observed for other hypocholesterolemic agents. The benefit correlated with the extent of statin use, and current statin use was associated with a 71% reduction in risk of hip fracture. After controlling for comorbidities, nursing home stays, and the number of medications, the benefit remained.

The limitation of both studies is the case-control format. It remains possible that unidentified confounding variables account for the benefit rather than the statin use. Importantly, the Meier study indicated that hypercholesterolemia itself does not reduce risk of fracture, since these individuals had the same fracture incidence as the normocholesterolemic controls. Both papers found that other hypocholesterolemic agents did not reduce the fracture risk. Older hypercholesterolemic patients with or without cardiovascular disease are among the most common patients for which indications for statin treatment exist, but for whom drugs are not prescribed. These studies should provide an additional reason to administer statins, especially in our older patients in whom hip and other fractures are feared. ■