Lipids and Hypertension

To the Editor.—The article by Williams et al entitled "Familial Dyslipidemic Hypertension" merits comment. In my experience, the lipid–blood pressure connection is pervasive within the hypertensive population. The clinical experience on which this letter is based is the Bowling Green Study (BGs), which is my own 14-year ongoing study of the primary and secondary prevention of atherosclerotic disease. The BGs involves 7399 patients, representing my private practice of family medicine in Bowling Green, Ohio.

This study represents all patients since 1974 who were found to have hypertension (sitting blood pressure, 140/90 mm Hg). In my practice, blood pressure is measured on every office visit. A lipid evaluation is performed as part of the hypertensive workup. In this study, a patient must have hypertension and no other dominant reason for having lipid levels tested. Seventy-seven men and 82 women met this criterion. (Low-density lipoprotein cholesterol [LDL-cholesterol] and high-density lipoprotein cholesterol [HDL-cholesterol] levels were not available to the BGs until 1978 and hence complete data are not available for all 159 patients, but only for 48 men and 48 women. These patients range from 7 to 86 years of age.)

The BGs has sought the best lipid predictor of future atherosclerotic disease. Initially, total serum cholesterol and triglyceride levels were used, but they were poor predictors. The BGs therefore evolved a measure of the LDL-HDL balance as its own best lipid predictor—ie, the Cholesterol Retention Fraction: (LDL-HDL)/LDL.

The BGs now relies exclusively on the Cholesterol Retention Fraction as its lipid predictor. When the Cholesterol Retention Fraction exceeds 70% (the LDL level exceeds 4.40 mmol/L or the HDL level is less than 1.05 mmol/L), abnormalities are present.

Evaluation of these patients reveals that most of them had dyslipidemia. If one combines the numbers of those who have abnormal lipid values with those whose values are not abnormal but are clearly above those of the atherosclerotic disease-free population (unpublished data), the lipid abnormalities break down as shown in the Table.

The BGs figures are reasonably comparable with those of the study by Williams et al, except for the men’s HDL and triglyceride values.

The important differences between the BGs and the study by Williams et al are as follows:

1. The study by Williams et al is familial; the BGs is not and therefore is more representative of the hypertensive population as a whole.
2. The study by Williams et al involves mainly the use of diuretics and β-blockers; the BGs, mainly diuretics and central alpha agonists, such as clonidine and methyldopa. While diuretics are well known to raise LDL and lower HDL levels, central alpha agonists have neutral effects on lipid levels. This is in sharp contrast to β-blockers without intrinsic sympathomimetic activity, which have adverse effects on HDL and triglycerides. This may account for the chief differences between the two studies.

In conclusion, the lipid–blood pressure connection is widespread within the hypertensive population. Physicians treating any hypertensive patients must examine the lipid profiles of those patients. Those patients found to have dyslipidemia should be treated with antihypertensive agents that do not adversely affect those lipids.

W. E. Freeman, Jr, MD
Bowling Green, Ohio

School and Work Release Evaluations

To the Editor.—Drs Holleman and Holleman deserve accolades. Their report should be required reading for every legislator, welfare system caseworker, and public school official, not to mention every physician. Work release evaluations and their close relative, disability evaluations, present important problems for specialists as well as primary care physicians. As a radiation oncologist, I frequently am asked to complete a complicated disability form for the State Department of Social and Health Services. The form represents a well-intentioned attempt to quantify disability evaluations, but its completion requires considerable physician input. Even if I were capable of measuring accurately the function of each joint and the ability of the patient to tolerate a standing posture for a specified number of hours, it is not possible to suppose that I also understand the specific physical, mental, and psychological demands of the patient’s job and that I can correlate the physical findings with the employment environment and draw meaningful conclusions about the level of disability, much less predict how long that disability might persist. Because radiation oncology patients frequently make daily appearances for treatment over a month or 6 weeks, it might be supposed that the oncologist would be in a peculiarly advantageous position to evaluate functional levels and determine the extent of disability. However, I often am surprised at the disparity between the patient’s apparent level of functioning while in the treatment unit and his family’s reports of his functioning at home.

In my experience, some cancer patients who seem to be profoundly dis-