



Blood Pressure and Coronary Heart Disease

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EDITORIAL

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The leading causes of death worldwide are ischemic heart disease and cerebrovascular accidents [1]. In the industrialized countries, hypertension is one of the major risk factors for both coronary heart disease and stroke [2, 3]. Globally, hypertension is surpassed only by malnutrition and tobacco use as major risk factors for death [4].

Systolic and diastolic blood pressure levels have been shown to be positively and continuously related to the risk of stroke across a wide range of levels of the populations in both the Western and Eastern hemispheres [5, 6]. Blood pressure levels have also been shown to be positively and continuously related to the risks of major coronary heart disease events, such as death caused by coronary heart disease or non-fatal myocardial infarction [6]. The strength of the latter association is about two-thirds as steep as that for stroke, and appears to be similar across a broad range of blood pressure levels, including both hypertensive and normotensive individuals. Finally, there is evidence that patients with a history of hypertension have at least a six times greater risk of heart failure than individuals without such a history [7].

These facts have been emphasized in the recently published 1999 World Health Organization–International Society of Hypertension Guidelines for the Management of Hypertension [8]. In the guidelines it is stated that the primary goal of treatment of the patient with high blood pressure is to achieve the maximum reduction in the total risk of cardiovascular morbidity and mortality. This requires treatment of all the reversible risk factors identified, such as smoking, raised cholesterol or diabetes and the appropriate management of associated clinical conditions, as well as treatment of the raised blood pressure *per se*.

In the present issue of BLOOD PRESSURE Brorson and co-workers call to our attention the fact that patients with established coronary heart disease and hypertension have a poorer prognosis than normotensive subjects with ischemic heart disease [9]. In patients referred for possible coronary revascularization, those with a history of hypertension had a more severe coronary artery disease and a higher mortality compared with normotensives.

Similarly, a retrospective analysis of survival data on patients with acute myocardial infarction screened for the Trandolapril Cardiac Evaluation (TRACE) study recently demonstrated an elevated risk of death in hypertensives as compared with normotensives [10]. An excess risk among hypertensives has been known for several years [11–13].

The elevated risk was early shown to be independent of the possible confounding influences of serum lipids and smoking [12]. Recently, it was also demonstrated that the higher mortality attributable to hypertension was present at all levels of left ventricular systolic function.

It is not clear why the prognosis is worse in subjects with ischemic heart disease and hypertension compared with those without any blood pressure elevation. It has been speculated, that hypertensives may have concomitant left ventricular hypertrophy and a more advanced coronary heart disease [14]. The study by Brorson *et al.* in this issue of BLOOD PRESSURE lends support to the hypothesis that coronary artery disease may be more extensive in patients with a history of hypertension [9]. In fact, they found that patients with a history of hypertension had a lower exercise capacity and more frequently had ST-segment depression at exercise test.

The study by Brorson *et al.* suggests that clinicians may be reluctant to refer patients with hypertension to coronary angiography, e.g., suppressing ischemic symptoms with antihypertensive medication [9]. Needless to say, the appropriate clinical decision should be the opposite. Consequently, the 1999 World Health Organization–International Society of Hypertension Guidelines for the Management of Hypertension emphasizes that all patients with clinical cardiovascular disease carry the highest risk of cardiovascular events, and thus qualify for the most intensive and rapidly instituted therapeutic regimes [8].

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