4. HYPERTENSION IN THE ELDERLY

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The widespread confusion with regard to definition, evaluation, treatment, and prognosis of high blood pressure in the elderly may result from several of the following facts. First, since blood pressure increases with age in the general population, an elevated arterial pressure is felt to represent a normal finding in the elderly. Second, the elderly patients predominantly present with systolic hypertension, and it is felt that only diastolic hypertension increases morbidity and mortality. Third, since perfusion of various vital organs diminishes with aging because of arteriosclerosis, it is felt that an increase in arterial pressure represents a compensatory process to maintain an adequate organ blood supply (requisiteness-hypertension). Finally, no data have been provided to show that hypertension in the elderly is a separate entity that requires a different approach from that commonly used in the young and middle-aged patient.

We have recently evaluated clinical, hemodynamic, fluid-volume, and endocrine findings in hypertensive patients who are older than 60 years of age and compared them with young patients who were matched with regard to levels of mean arterial pressure [1]. The present review is based on this comparison and covers epidemiologic, pathophysiologic, clinical, as well as pharmacological aspects of geriatric hypertension. For the purpose of this chapter, hypertension will arbitrarily be defined as a blood pressure exceeding 160/90 mm Hg, and the elderly will be considered as those patients who have reached the age of 65 and above.
Figure 4-1. Probability of developing cardiovascular disease in eight years, according to systolic blood pressure of low-risk persons aged 35–70 years in the Framingham study. Subjects were persons with serum cholesterol < 185 mg percent, normal glucose tolerance, no ECG-LVH, and nonsmokers. Ordinate shows probability of cardiovascular disease per 1,000. (Reproduced with permission from Framingham Monograph, No. 28.)

EPIDEMIOLOGY

The National Health Survey from 1960 to 1962 and 1970 to 1974 has shown that the prevalence of hypertension reached 50 percent in patients older than 65 years [2, 3]. For all age groups, black patients had a higher prevalence of high blood pressure than white ones. Considering that the number of older people living in the United States is expected to double over the next few decades and exceed 50 million, we can anticipate 25 million hypertensive geriatric patients in the near future.

Despite such impressive numbers, there is nothing benign about hypertension in the elderly. The Framingham study has shown that the risk of developing cardiovascular disease increases progressively with systolic pressure regardless of age (figure 4-1) [4]. The risk of having a stroke or heart attack for elderly hypertensives within the next eight years has been reported to be two