THE FOURTH HAHNEMANN INTERNATIONAL SYMPOSIUM ON HYPERTENSION

Regulation of Blood Pressure by the Central Nervous System

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Editors

The Fourth Hahnemann
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Preface

Since the last Hahnemann symposium, *Hypertension: Mechanisms and Management,* conducted in 1971, the role of the central system in the regulation of blood pressure has received increasing attention. Recent findings associated with the regulation of blood pressure by the central nervous system are changing the concepts of pathophysiology, and with these changes, our approach to therapy.

It is now well accepted that the central nervous system directly regulates cardiovascular functions. It follows that environmental stimuli may exert profound effects on the circulation. Thus, central nervous system abnormalities and interactions with environmental stimuli may significantly affect blood pressure.

Whether the centrally induced increases in blood pressure result in sustained hypertensive cardiovascular disease, remains to be demonstrated. It is becoming apparent, however, that the kidney may influence the circulation through the centrally mediated effect of angiotensin II. In turn, the secretion of renin by the kidney is modulated by the central nervous system. Therefore, central neurogenic activity may elicit a chain of cardiovascular and humoral events responsible for sustained hypertension.

The consideration of the importance of centrally acting antihypertensive agents follows this concept.

The introduction of clonidine has focused attention on the pivotal role of the central nervous system in the regulation of the blood pressure. The action of clonidine on the central adrenergic neurons results in a spectrum of neural and humoral effects responsible for the decrease in blood pressure. At this time, clonidine represents the prototype drug which affects the blood pressure through the central nervous system.

With these indications of the relevance of the central nervous system in pathophysiology and pharmacology of hypertension, an assessment of knowledge in this area appears necessary.

Scientists from 12 countries have prepared this volume. To them is the credit of this endeavor due.

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PART I

Central Control of Blood Pressure