



# HYPERTENSION

## Clinical Management, Renal Artery Disease, and Newer Concepts

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I AM DELIGHTED to have the opportunity to serve as the editor of this special hypertension issue of the *Cleveland Clinic Journal of Medicine*. In particular, I am grateful to my colleagues who contributed the excellent articles that make up this issue. I believe that, regardless of area of clinical interest, readers will find a number of papers relevant to practice and will appreciate the authors' approach in presenting the information.

Our dedicated interest in hypertension, the seeds of which were planted at The Cleveland Clinic Foundation more than four decades ago by Dr. Irvine H. Page, has continued to flourish among our professional staff. I sincerely hope you enjoy reading the reviews and clinical experiences presented in this special hypertension issue.

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### CLINICAL MANAGEMENT

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Whether your clinical interests are medicine or surgery, the papers focusing on hypertension management are of interest. Dr. Ray W. Gifford, Jr. critically reviews the major classes of antihypertensive agents recommended for initiation of therapy in patients with mild to moderate hypertension. The new report by the Joint National Committee on Hypertension IV offers increased flexibility over prior JNC reports. The ability to individualize initial therapy will be appreciated.

Dr. Emmanuel Bravo correlates the hemodynamic, biochemical, and neurohumoral mechanisms important in arterial hypertension and relates them to currently available classes of antihypertensive agents. While measurement of these laboratory parameters is not commonly required in initial evaluation of the hypertensive

patient, an understanding of these potential mechanisms can be of considerable benefit to the clinician in both initial assessment and selection of antihypertensive therapy.

The prevalence of hypercholesterolemia as a concomitant risk factor in the hypertensive patient is well recognized. Dr. Michael Cressman provides practical guidelines for evaluation, reviews the effects of the various classes of antihypertensive agents, and outlines recommendations for cholesterol-lowering drugs in this high-risk hypertensive population.

Labetalol is a potent antihypertensive agent with both beta and alpha adrenergic blocking properties. This agent has become increasingly popular for the management of not only hypertensive urgencies and emergencies but also perioperative hypertension. Dr. Frank Cosentino and colleagues have reviewed clinical data attesting to the safety of this agent despite administration in dosages considerably above those recommended in the package insert.

Hypertension is a commonly recognized problem following renal transplantation. Dr. Donald Steinmuller presents a typical case of post-transplant hypertension, eventually determined to be due to renal artery stenosis, which was successfully treated by percutaneous transluminal renal angioplasty. He has reviewed the various conditions and/or factors that may contribute to hypertension in the patient after organ transplantation.

Most primary physicians, while not directly involved with patients undergoing surgical procedures, nevertheless may be involved in the preoperative evaluation and management of the hypertensive patient scheduled for surgery. Dr. Fawzy G. Estafanous has addressed the risks of anesthesia and surgery to the hypertensive patient and reviews the role of available antihypertensive agents

in both preoperative and operative management as well as the management of anesthesia in this patient group.

#### RENAL ARTERY DISEASE

The Cleveland Clinic has long been a preferred referral institution for the patient with renovascular hypertension. In this issue, we are pleased to offer five reviews dealing with this clinically relevant condition, particularly as it affects the elderly patient with generalized atherosclerosis.

The limitations in conventional screening and diagnostic studies for renovascular hypertension have long been recognized. Dr. Joseph V. Nally reviews recent work suggesting that captopril stimulation of both plasma renin determinations and conventional renography may enhance the sensitivity and specificity of these studies in the diagnosis of renovascular hypertension.

In older patients with generalized atherosclerosis and long-standing hypertension, the observation of progressive renal insufficiency suggests the possibility of renal artery occlusive disease and/or renal cholesterol embolization. My colleagues and I have reviewed the recent Cleveland Clinic experience with atheroembolic renal disease, have established its high association with renal artery occlusive disease, and have demonstrated that the presence of renal cholesterol emboli does not represent an absolute contraindication to successful surgical renal artery revascularization.

Dr. Luis Bedoya et al have reviewed our recent experience with surgical revascularization in elderly patients with atherosclerotic renal arterial disease. They demonstrated that preoperative renal impairment is not associated with higher morbidity nor does it affect the outcome of surgical revascularization on renal function. A relationship between preoperative renal function and the postoperative reduction in diastolic blood pressure was found.

Dr. Erdal Erturk and colleagues, who report experience with six patients who underwent secondary renal revascularization for recurrent renal artery stenosis, stress the importance of aggressive investigation for correctable lesions in this form of recurrent hypertension.

Dr. Jeffrey W. Olin et al report on a potential alternative to percutaneous transluminal angioplasty or renal artery revascularization in patients with renal arteries occluded by atherosclerotic disease. Two patients who underwent successful thrombolysis of occluded renal arteries are presented and the potential for this new technology is reviewed.

#### NEWER CONCEPTS

I would not consider this issue complete without focusing on several new concepts in our understanding of this common disease.

A role for the central nervous system in the etiology of arterial hypertension has long been considered. Drs. Carlos Ferrario and Marc T. Schiavone have reviewed and developed a compelling body of data supporting the concept that a defect in the brain renin-angiotensin system contributes to the development of hypertension in man.

It has been recognized that in selected patients at increased risk due to intrinsic heart disease, even blood pressures in the normal range may add to left ventricular stress. Drs. Fetnat M. Fouad-Tarazi and Robert E. Hobbs address this issue and have proposed the term "relative hypertension" to better characterize this situation.

Dr. Beatriz N. Dardik and colleagues have reviewed ongoing research focusing on the molecular configuration of fibrinogen derivatives in blood and their possible implication in the progressive vascular lesions observed in a number of diseases including malignant hypertension.