

科技资料

ADVANCES IN VASCULAR PATHOLOGY

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ADVANCES IN VASCULAR PATHOLOGY 1990

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Volume 3

Editors

Antonio Strano

*Department of Internal Medicine
University Tor Vergata
Rome, Italy*

Salvatore Novo

*Institute of Chest Diseases
University of Catania
Catania, Italy*



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PREFACE

Nearly three thousand delegates attended the XV World Congress of Angiology, held in Rome from 17th to 22nd September 1989.

The papers presented at the Congress reflected the rapid progress as well as the continuous innovation and discoveries in the field of angiological research.

The 1336 scientific contributions received from 41 countries were analyzed by the Scientific Committee and over 1000 were accepted for the final programme.

It was, of course, not possible to publish all papers, therefore the Scientific Committee decided to publish in the Proceedings only those papers presented at the Symposia and Round Tables and those selected as oral presentations.

Many authors sent their papers by the original deadline of May 1989 and most of these papers were published in Volumes 1 and 2 of the Proceedings that were distributed to the delegates during the Congress. However, a large number of authors handed in their manuscripts during the Congress and it was therefore decided to publish this third volume of the Proceedings. This volume comprises papers that focus on the most recent progress in the pathophysiology, diagnostic methods, clinical and therapeutical aspects of vascular diseases, analyzed from an interdisciplinary point of view.

This third volume of the Proceedings is once again dedicated to the scientists dealing with a large number of disciplines, not only angiologists and vascular surgeons, but also internists, general surgeons, radiologists, biochemists, pharmacologists and pathologists who are contributing to the ongoing progress in angiology and who want to know the 'State of the Art' in Angiology.

Rome, 10 September 1990

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ORTHOSTATIC DYSREGULATION

PHYSIOLOGICAL BASIS OF ORTHOSTATIC DYSREGULATION

Roger F. J. Shepherd and John T. Shepherd
Mayo Clinic and Foundation, Rochester, MN 55905

Stated in the simplest terms, the arterial blood pressure depends on two variables, the cardiac output and the systemic vascular resistance. The former is the product of the heart rate and the stroke volume and the latter depends primarily on the caliber of the small arteries and arterioles. However, as new knowledge continues to accumulate, the complexity of the nervous, humoral and local factors regulating these variables become increasingly apparent.

Nervous Control

Pressure receptors (mechanoreceptors) in the heart and great vessels continuously relay information to the cardiovascular centers in the brain stem (Fig. 1). These receptors are in the cardiac chambers, the lung, and in the ascending aorta and the origin of the internal carotid arteries. Those in the aorta and carotid sinuses and those in the heart subserved by so-called vagal afferents, inhibit the vasomotor center, while those in the heart subserved by so-called sympathetic afferents excite the center. In addition, receptors in the skeletal muscles (so-called ergoreceptors), when activated by the metabolic changes accompanying isometric or strong rhythmic contractions, also excite the vasomotor center. Carotid and aorta chemoreceptors, when activated by an increase in $p\text{CO}_2$, or a decrease in pH of the arterial blood, also excite the center. Decreased inhibition or excitation of the vasomotor center via these sensory systems causes an increase in the sympathetic outflow