INTRODUCTORY REMARKS

THE family of polypeptide hormones has shown a steady growth in number during the last decades and has received increasing attention, as indicated by the fact that several symposia have been devoted to this group of biologically active substances or single members thereof. At the International Physiological Congress in Montreal in 1953 it was announced that not only the chemical constitution of the postpituitary hormones had been revealed by du Vigneaud and his co-workers, but also their synthesis achieved. This announcement was actually made at the first symposium held on polypeptides acting on smooth muscle, conceived and planned by M. Rocha e Silva and the present writer during his visit in São Paulo in 1951. The papers were collected in a volume edited by J. H. Gaddum and published in 1955. Some years later a second symposium on a similar subject was held in London, followed by the First International Symposium on Substance P in Sarajevo arranged by P. Stern in 1961. The present special symposium is the first one devoted entirely to bradykinin, which since the Polypeptide Symposium at the XXI International Physiological Congress in Buenos Aires in 1959 had been isolated by Elliott, Lewis and Horton (1959), and recognized as a nonapeptide and synthesized by Boissonnas and his co-workers in the same year. The isolation and structure determination of angiotensin had been achieved shortly before (1956), followed by the synthesis (1957) mainly through the work of Skeggs, Bumpus, Page and Schwyzer and their co-workers. Most recently the isolation of Substance P has been reported by Boissonnas and his co-workers (1961).

The intense work in later years on the nature and actions of polypeptides which are either occurring naturally or are being formed in the body has also greatly helped to clarify the relations between different members of the polypeptide group. Thus there are now good reasons to regard kallidin, the active product produced by kallikrein (Frey, Kraut and Werle) as very closely related to or identical with bradykinin (Schachter *et al.*)

Although the functional significance of angiotensin and substance P is still largely obscure, evidence for their presumptive roles as regulators of vascular and other smooth muscle activity and of central nervous functions are gradually coming forth. As for bradykinin, development has gone faster, and its formation in blood or tissues during certain conditions involving vasodilation in secretory glands and multiple local disturbances,

such as inflammation, is already well evidenced. As a result of this work it is possible to ascribe some of the typical symptoms during such conditions, including pain, to the actions of bradykinin.

One of the most challenging tasks in the study of the biological significance of the polypeptide hormones has been to find specific antagonists. So far the results have not been very enocouraging with one strikig exception, the antagonistic action of certain antirheumatic drugs, particularly acetylsalicylic acid, against the bronchoconstrictor action of bradykinin (Collier).

It is only fitting that Dr. Rocha e Silva should be acting as organizer of this special symposium on bradykinin and, judging from the papers to be presented by a number of outstanding experts in this field, there is every reason to expect that the present symposium will bring clarity in a number of problems and present new platforms for future work.

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