Book Reviews

Research on Steroids. Volume II. Edited by C. CASSANO. Il Pensiero Scientifico, Rome. 1966. xv + 553 pp. 16 × 23 cm.

This volume contains the transactions of the Second Meeting of the International Study Group for Steroid Hormones, held in Rome, December 17–19, 1965. The scientific sessions dealt with Estrogens in Pregnancy (four lectures, eleven communications), Methodology in Steroid Estimation (four lectures, sixteen communications), followed by a round table conference on Steroidal Antifertility Agents (thirty papers with discussions).

Rome is of course a very attractive place for international meetings and the presence *in situ* of a dedicated and highly qualified group of organizers could not fail to provide an interesting and successful program. A great number of the papers and communications have since appeared in the periodical literature, but this reviewer appreciated the convenience of having them collected in a single volume. The timely appearance of the transactions only a few months after the meeting, the excellence of the editing, printing, and indexing commend this book as a valuable addition to most research libraries.

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Hypotensive Peptides. Proceedings of the International Symposium, Florence, Italy, Oct 1965. Edited by E. G. ERDOS, N. BACK, F. SICUTERI, and A. F. WILDE. Springer Verlag, Inc., New York, N. Y. 1966. xxvi + 660 pp. 23.5 × 16.5 cm. $18.60.

This volume contains 62 papers presented at the International Symposium on Hypotensive Peptides, held in Florence, Italy, in October 1965 and updates the work in this field since the meeting of the New York Academy of Sciences in 1962. Most of the hypotensive peptides are covered including bradykinin, kallidin, eledoisin, gastrin, physalaemin, and substance P, and the enzyme kallikrein.

The first part of the symposium dealt with the chemistry of peptides. Merrifield presented his automated peptide synthesis, with which a protected bradykinin nonapeptide was synthesized in 32 hr of continuous operation. Stewart and Woolley reported the synthesis of over 40 analogs of bradykinin and showed that 5,8-di-O-methyltyrosine bradykinin, where O-methyltyrosine replaces phenylalanine, is a potent inhibitor of bradykinin action on isolated rat uterus, causing 90% inhibition at a concentration of 10^{-6}. Erspamer's group reported the isolation of a smooth muscle stimulating peptide phyllokinin, a bradykinylisoleucyltyrosine sulfate which has bradykinin-like biological properties.

The next section dealt with enzymes forming and destroying hypotensive peptides, and isolation of peptide precursors, the kininogens. Habermann viewed studies on different enzymes which release kinins and Pierce and Webster reported the purification and properties of two different kallidinogens from human plasma. Suzuki, *et al.*, spoke on the purification of bradykininogen and enzymes in snake venom. They postulated that bradykinin is not located at either end of the polypeptide chain of bradykininogen, and have isolated two bradykinin-destroying enzymes from snake venom. Vogt showed that two separate kinin-forming systems exist in human plasma, each consisting of a separate enzyme and substrate. These enzymes occur in plasma as inactive proenzymes, and are activated by acid or contact with glass. Werle and his group, and Erdös and Yang studied kinin-destroying enzymes, the kininases, and their inhibitors. In general, inhibition of kininases *in vivo* potentiated the biological action of kinins, while intravenous injections of carboxypeptidase B blocked the cardiovascular effects of bradykinin and kallidin, probably by rapidly hydrolyzing the peptides.

The next section covered physiology, pharmacology, and pathology of hypotensive peptides, including a paper by Spragg, Haber, and Austen on radioimmunoassay of bradykinin. Webster felt that the kallikrein–kallidin system was not responsible for functional vasodilatation in salivary, sweat, and pancreatic glands, nor in skeletal muscle, and this was supported by Schachter; however, Hilton thought that bradykinin–kallidin played a role in vasodilatation of salivary glands. Kroeger and Krivoy presented evidence that bradykinin and kallidin may act on cell membranes, modulating tissue excitability and changing permeability. Haefely, *et al.*, showed that bradykinin and angiotensin facilitated superior cervical ganglion transmission and augmented the ganglion-stimulating effect of acetylcholine, but these actions did not involve release of catecholamines. The three following papers described the potentiation of smooth muscle response to bradykinin, by chymotrypsin, human fibrinopeptide B, and a component, possibly a peptide, isolated from venom of *Bothrops jararaca*. Konzett and Bauer reported that bradykinin, kallidin, and eledoisin increased pulmonary arterial pressure by vasoconstriction, but did not increase vascular permeability in isolated perfused lung (Hauge, Lunde, and Waaler). Physalaemin was reported to be the most active vasodilator known, having direct smooth muscle relaxing action on resistance vessels. This vasodilatation occurred mainly in musculocutaneous vessels. Other papers included the effects of bradykinin on ventricular-conducting system of dog heart, microcirculatory effects of polypeptides, and the role of kinins in pancreatic disease, intestinal strangulation, fibrinolysis, myocardial infarcts, trypanosome infection, and carcinoid syndrome.

The last section was devoted to substance P, including purification by Zuber and the separation of two biologically active principles from brain substance P preparations by Meinardi and Craig. Zetler demonstrated that fraction F_c, an acidic fraction of crude substance P preparations from brain, acted by releasing acetylcholine from postganglionic neurones of intestinal wall, while fraction F_a and F_b, basic fractions, act directly. F_b is identical with purified substance P. Stern reported the sedative action of substance P and suggested that it may be mediated by serotonin.

Over-all, the symposium is a worthwhile addition to the literature on hypotensive peptides, reviewing in one place recent work on this subject up to the middle of 1965. In a rapidly changing and advancing field, it is worthwhile to sit back every few years and summarize where one stands.

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Chemistry and Applied Pharmacology of Tranquilizers. A Primer for Students and Practitioners. By ERWIN LEAR. Charles C Thomas, Publisher, Springfield, Ill. 1966. xi + 117 pp. 16 × 24 cm.

This reviewer's experience with at least the younger generation of physicians points to the fact that practitioners are a scientifically pretty sophisticated group who have retained an astonishing amount of knowledge from their bulky and high-level texts on pharmacology. It comes, therefore, as a surprise to find in this slender primer, a treatment on psychopharmacological agents inadequate for the practitioner and misleading for the student. It represents no more than an uncritical compilation of data on drugs as they may be found in the manufacturers' information pamphlets. Although the book is entitled "tranquilizers," the introduction contains biochemical proposals for the origin of hallucinations and mental disease, in which the abandoned adrenochrome and homoveratrylamine hypotheses are reaffirmed. Included in the book is also a one-page remark on hydrazine-type antidepressants; other compounds used for such activity are not mentioned, although one other such drug (p 38) has been grouped with structurally analogous phenothiazines. The phenothiazines themselves are fairly well reviewed but on a therapeutically primitive level.

The only valuable feature of the book is a good bibliography which students may use to search for more detailed information. Otherwise this volume can barely be recommended.

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