

Johann Conrad Brunner

1653-1723

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Johann Conrad Brunner, known to every medical student for his description of the duodenal glands, should be appreciated also for his enquiring research into the role of the pancreas. While a practising physician in Diessenhofen, a small town at the northern border of Switzerland, he observed the effects of excision of the pancreas to settle the question whether this organ was essential for life.

He reported his experiences in two publications. In the first, "*Experimenta nova circa Pancreas, accedit Diatribe de Lympha et genuino Pancreatis usu*," Amstelaedami 1683, he noted in the sixth experiment, performed on July 19, 1679 (?) that frequent urination, immoderate drinking and a voracious appetite followed the extirpation. Also in the seventh experiment, dated March 23, 1683, Brunner comments on the intensive thirst of the animal.

In the second report, "*De Experimentis circa Pancreas novis confirmatis. Miscellanea curiosa sive Ephemeridum Medico*" — Physicarum Germanicarum Acad. Imp. Leopold, Natur. Curios. Dec. II Annus VII 1688, Norimbergae 1689, he described in full detail, accompanied by an excellent drawing, the technic of a pancreatectomy performed on a neighbor's hunting dog on Oct. 6, 1685. On the following day abundant urination was noted, on October 9 increasing appetite, but on October 12 the

dog escaped and returned to his own master who refused to return him to the experimenting physician. For a long time Brunner tried in vain to get hold of the dog, and six months passed before he caught the animal again. A post-mortem examination showed the pancreatectomy to be incomplete.

The repeated observations of polyuria, polydipsia and polyphagia indicated that Johann Conrad Brunner had performed the first recorded subtotal pancreatectomy leading to a Sandmeyer-type of diabetes. Brunner, however, who later in 1686 became professor of anatomy and physiology at the University of Heidelberg, did not connect the symptoms with diabetes. More than 200 years later, von Mering and Minkowski also excised the pancreas of a dog in order to investigate pancreatic function. Again they met the same cardinal symptoms which were similar to those Minkowski had seen in diabetic patients. The fame of Johann Conrad Brunner rests not on his work on the pancreas, but on his description of the duodenal glands which bear his name.

REFERENCE

Ole Christian Zimmermann: Die erste Beschreibung von Symptomen des experimentellen Pankreas-Diabetes durch den Schweizer Johann Conrad Brunner (1653-1723), *Gesnerus* 2: 109-30, 1945.

BOOK REVIEWS

REDUCE AND STAY REDUCED. By Norman Jolliffe, M.D. \$3.50, pp. 264, Simon and Schuster, Inc., New York, 1957.

This book, written primarily for the reducer, has gone through seven reprintings of its first edition in 1952. The present second edition has been modified to incorporate recent concepts for the prevention of atherosclerosis so that the diets contain less than 30 per cent of the calories from fat. In addition, low sodium and emergency liquid diets, and simplified diagrams have been added.

The first part of the volume concerns itself with the

"Appestat" concept of the appetite and hunger regulating mechanism, tests for obesity, indications for reducing and not reducing, and the basic physiology and mathematics of weight regulation and control. Since this volume is not intended as a thesis on hunger regulation, it would be inappropriate to review it as such. The "Appestat" theory is certainly an oversimplification of the present knowledge of the short and long term regulatory factors of food intake, satiety, and weight. The phrase is, nevertheless, attractive and has become established in both scientific and popular literature. In this work it has been used deftly by its originator to supply a logical concept to the reducer so that he may obtain a better understanding of his problem. The second part

contains the methodology: Diet selection, food values, menus, cookery and an extensive list of calorie counts. Separate small chapters are devoted to "heart saver" (low fat) and low sodium diets with numerous wise hints to make these often burdensome diets more tolerable.

The reviewer is impressed with the merit of this work. It is sound, scientifically accurate and factual. It offers no panaceas or fads but places reducing in its proper place as a prophylactic and therapeutic procedure. It does not appeal to the emotions but to reason, offering the reader a sound and intelligent fund of information which he may grasp easily and utilize sensibly. It may be studied with great benefit by the medical reader as well, certainly, by those interested in diabetes. Nothing like it is available to the serious reducer, and the physician can recommend it to him with all confidence.

CLINICAL PHYSIOLOGY. *Edited by Arthur Grollman, M.D.* \$12.50, pp. 854, McGraw-Hill Book Co., Inc., New York, 1956.

This book attempts to present the "basic physiologic principles of clinical medicine" without including general subjects of physiology or clinical medicine, available in current texts. The aim involves considerable selection of material, which is evidenced in the chapters by the twenty-six distinguished contributors. However, even the subject matter included requires compression in order to be treated within reasonable limits, a fact which has left the quality of a synopsis in significant segments of the book. In other chapters, a restricted area has been treated intensively with no attempt at complete coverage of the subject. Opinions may differ regarding the need and desirability of this varied approach, but it does provide an uneven character to the book as a whole. This is not intended as a criticism of the material, since all the chapters are written with authority and at a generally advanced level. An outstanding feature is the timely and valuable analysis of pulmonary function by Drs. Dickinson W. Richards and Andre Cournand. The factors which operate to produce impairment of pulmonary function are categorized, and provide a framework for proper evaluation of the patient with pulmonary disability. The erudition and perspective for which he is remembered are demonstrated in the discussions of carbohydrates, lipid, and protein metabolism by the late Dr. John P. Peters. These sections will prove worthwhile to the individual who desires to refresh his knowledge of the basic principles of metabolism.

The book is recommended reading for all physicians who regard continuing education in principles of human physiology as an important aspect of clinical instruction.

ACTUAL PROBLEMS IN DIABETES, *A symposium. Edited by Prof. Dr. E. Bertram and Dr. J. Kuntze.* \$1.35, pp. 80, Georg Thieme, Stuttgart, 1957.

This most valuable transcript of a Symposium on Problems of Diabetes, held in Hamburg in January 1957, contains contributions and discussions from a great number of authorities from Germany, Austria, Switzerland and Sweden.

Since the hypoglycemic sulfonylureas have been in use in Germany for a longer period of time than in the U.S.A., and since carbutamide as well as tolbutamide are employed, the experiences and problems discussed are of great interest. Both drugs appear to have continued to give generally satisfactory results in the management of the stable, maturity onset diabetes. Most speakers agreed that about 28 to 40 units of insulin per day are the upper limits which can be replaced by the oral drug. The importance of adherence to dietary restrictions was stressed. The hypoglycemic activity of carbutamide was found to be somewhat greater than that of tolbutamide in equal doses, but the toxicity of tolbutamide to be less. Some authors recommend use of the latter only, as in the U.S.A., but others would not like to miss carbutamide. The main discussion centered around the two problems of (1) mechanism of action, and (2) drug escape. The concept of α -cell or glucagon inhibition seems to be largely abandoned. β -cell stimulation with stimulation of insulin secretion is now generally accepted as the main or one of the main actions (v. Holt, Kracht, Baender), but no reference is made to Loubatières who first suggested it. The possibility of hepatic action and inhibition of glycogenolysis was discussed by Beringer. Heinsen reported that, in a number of patients, the oral drug lost its effect after an initial period of good control. He called this a tachyphylaxis-like reaction. Various speakers (Constam, Zurich; Brechmann, Hamburg; Stratmann, Stuttgart; Otto, Hamburg; and Pfeiffer, Frankfurt) confirmed this observation of drug escape. In some instances this was thought to be caused by overeating; in others, however, the question was raised of islet-cell exhaustion. Mylius, Hamburg, reported on fresh punctate hemorrhages in the fundi of patients under sulfonylurea treatment, but other clinicians did not corroborate his findings.