Handbooks for the General Practitioner

HURXTHAL

PRACTICAL ENDOCRINOLOGY

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MINOR SURGERY

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PRACTICAL ENDOCRINOLOGY

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PRACTICAL ENDOCRINOLOGY

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PREFACE

The general practitioner is in need of up-to-date clinical information. He wishes to know about diagnostic and therapeutic progress in clinical medicine. He desires to treat his patients and does not always wish to or in many cases cannot refer them to specialists. Despite his needs for medical information, he has little time to read. Even the best available medical books are not especially adapted for use under these circumstances or practical enough for the dissemination of medical advances among general practitioners. Many books are written by specialists for specialists, and are too comprehensive for physicians who have to be orientated about every field of clinical medicine. It is nearly impossible for these busiest of medical men to buy and absorb the enormous volume of specialized publications, which would require reading for their enlightenment.

To fill this need it is intended to publish a series of "Handbooks for the General Practitioner." The books in this series will be written and edited especially for the general practitioner and will reflect the latest developments in diagnosis and therapy, but will not contain elabo-

rate discussion of theory. The material for these books will be short, clear and not too technical in order to be of practical value for everyday practice.

I am pleased that I could undertake the writing of this book on "Practical Endocrinology," which will appear as one of the first books of the series. Although diabetes is an endocrine disorder, the subject will be presented in another volume of this series by Dr. Howard F. Root and Dr. Priscilla White of the Joslin Clinic.

Let me say something about the content and classification of this book. General considerations of normal growth and development will precede the discussion of each of the endocrine glands. Many endocrine or pseudo-endocrine disturbances in childhood must be differentiated on the basis of a familiarity with what constitutes the wide range of normal development. Each gland and its respective disorders will be presented, along with differential diagnosis. Classical endocrine syndromes are comparatively rare in contrast to the many disorders which may mimic or suggest them. How to separate them is one of the author's objectives in this book. Classification of the syndromes discussed in this book follows the generally accepted and current views.

An endocrine gland's function depends on many variants. Overactivity or underactivity of a gland with one secretion renders classification a simple matter but the glands with multiple hormones, such as the pituitary or the adrenal gland, give rise to more complex clinical syndromes. Tumors of glands which in themselves have hor-

monal activity or may interfere with normal function further complicate classification. Thus, it is possible to have simultaneously overacting of one part of a gland and underactivity of another. In addition, there are the stimulating or inhibiting effects of one endocrine gland upon another.

After the various disorders of each gland are described along with methods of diagnosis and treatment, several special chapters are presented, dealing with hirsutism and gynecomastia; in addition, a review of sterility and a chapter on the therapeutic uses of steroid compounds as well as corticotropin and chorionic gonadotropin. Simple laboratory procedures constitute another chapter.

For more extensive references on clinical endocrinology it is suggested by the authors that the book "Clinical Endocrinology" by Drs. Hurxthal and Musulin be consulted. (Lippincott, 1950, 2 volumes.)

I wish especially to thank Dr. A. Seymour Parker and Dr. Hirsh Sulkowitch for their contributions.

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Boston, Massachusetts

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CHAPTER I

ENDOCRINE DISORDERS OF INFANCY AND CHILDHOOD

A. GENERAL INFORMATION

Endocrine disorders may begin at any time after birth; in fact, there are several which may be present at birth. They usually can be recognized shortly thereafter by certain abnormalities; I am referring especially to the congenital adrenogenital syndrome which can be recognized in the female by an enlarged clitoris and in the male by a larger penis than would be expected. In the former one might consider the infant to be a male with undescended testes and hypospadias. The adrenogenital syndrome is due to adrenocortical hyperplasia with excess secretion of androgenic hormones.

Roentgenograms of the hands and wrists show an advanced bone age for chronological age even at birth. Urinary 17-ketosteroids can be determined and will be found elevated and confirmatory. Recognition is important in view of successful treatment with cortisone.

Cretinism is another endocrine disorder which may be present at birth but which may not become apparent for three to six months thereafter. The cretinous baby may rarely cry and thus be considered unusually "good." However, the infant may not take its feedings too well and may suffer from constipation. Usually by six to eight months, if the condition is fully developed, it can be recognized by dryness of the skin, the puffiness about the eyes, the somewhat distended abdomen, often with umbilical hernia. Roentgenograms taken of the bones will show a retarded bone age. Thyroid deficiency may occur any time later, when it is called by some infantile myxedema or childhood myxedema; however, the term cretinism is a satisfactory one.

STAGES OF NORMAL DEVELOPMENT

Unless one is practicing pediatrics exclusively, it may be difficult to remember the ages at which certain phenomena occur which indicate normal development. Some idea of the appearance time of perception, crawling, sitting up, standing and walking is therefore necessary to estimate the progress of an infant's growth and development. Detailed data on this subject may be found in any standard textbook on pediatrics; however, a brief review will be undertaken here. The average baby sits up at twenty-four to thirty weeks, crawls at thirty-five to forty-five weeks, stands up at fifty-two weeks, and may walk at fifty-six to seventy-two weeks. These phases of development

may be retarded, particularly in cretinism or in conditions in which there is retarded growth; these will be discussed in more detail later.

Teeth

Eruption of the teeth may be at times an important phenomenon. The incisor teeth erupt in from six to ten months, the cuspid teeth from sixteen to twenty months and the first molar from twelve to sixteen months. These are the deciduous teeth. Permanent dentition begins with the incisors which appear between six and nine years, the cuspids between nine and twelve years, the bicuspids between eleven to twelve years in the maxilla, and in the mandible from one to two and one half years. These are the more important times to keep in mind and may indicate any type of retarded growth.

Linear Growth

Linear growth usually proceeds at a fairly normal rate up to the pubescent period, at which time there is usually a spurt. The longer a child measures, or the taller he is, the more rapid rate of growth is to be expected. The average male at one year measures approximately thirty inches long and grows a little over thirty-six inches in the next seventeen or eighteen years. This growth rate is at the average of about one and one half inches a year, but a little greater in taller boys and a little less in shorter boys. It is very unusual for a child to grow more than two and one half inches a year and this usually occurs in the spurt

beginning with pubescence. Girls, on the other hand, start off with about the same length as boys and on the average grow only about thirty-three inches and usually stop growing by the age of sixteen. They, too, have a spurt at pubescence which is usually a year or so earlier than in males. This increase in growth rate coincides with the development of secondary sex characteristics, such as enlargement of breasts, enlargement of the penis and testes, and the development of pubic hair. Thus it can be seen that if puberty begins late in either the boy or girl, the cessation of growth occurs at a later date than usual.

Puberty and Adolescence in the Male

The variation in the time of onset of puberty is considerably greater than ordinarily recognized. It is for this reason that so many children in the pubescent or adolescent age are considered, especially by their parents, as abnormal.

Various stages of masculine development are as follows:

(1) The prepubescent state which persists in 76 per cent of boys until at least eleven years of age, in 44 per cent until twelve, in 15 per cent until thirteen and in 6 per cent until fourteen.

(2) Pubescence in the male is characterized by prominence of the breasts in many instances, light unpigmented or lanugo hair, early axillary or pubic hair, and increase in the size of the penis and volume of the testes. As may be inferred from the previous percentages, it is