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PRACTICAL ORGANIZATION OF ENDOCRINOLOGICAL
INVESTIGATIONS IN THE USSR LABORATORY SERVICE

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In modern clinical practice great etiological and pathogenetic significance is attached to humoral regulation of the bodily functions. Investigation of endocrine hormones, of mediators of the nervous system and of biologically active tissue substances is acquiring ever increasing importance in diagnosis and control, not only in treating endocrine disturbances, but also in judging the condition of the patient in cases of internal, neurological, allergic, surgical and other disorders, as well as various types of acute conditions.

In addition to its independent diagnostic value, laboratory information on the state and disturbances of humoral regulation allows a deeper understanding of other laboratory data (biochemical, immunological, haematological)

Certain of the endocrinological laboratory tests (for glucocorticoids and catecholamines) have been included in the routine work of biochemical laboratories at all inpatient hospitals.

The specialized hormone laboratory serving such large units as the First Moscow Medical Institute clinics has quite justified its existence. However, if we consider the complexity and higher costs of many of the analyses and their relatively smaller series, the establishment of centralized laboratories working for several medical institutions seems to be advisable. It has been shown that such laboratories can efficiently carry out a wide range of endocrinological assays of substances including steroids, catecholamines and other biogenic amines, peptide hormones, and biologically active tissue. In the majority of cases the most precise assessment of the states of a certain endocrine function is obtained through the simultaneous assay of several substances characterizing that state, i.e. the active substances per se and their precursors and metabolites both in the blood and urine. It is much easier to update methods in large centralized laboratories, since new techniques are rapidly emerging at every new stage in the development of the biochemistry of hormones (radioimmunoassay, competitive binding, enzyme immunoassay, gas chromatography, high-performance liquid chromatography, etc.).

Centralization considerably facilitates control of the quality of laboratory assays and allows more effective economic organization of laboratory work (fuller utilization of equipment, reagents and highly skilled personnel).

The above conclusions are based on the activities of the interclinical hormone laboratory founded in 1961 at the First Moscow Medical Institute. It operates with thirty methods, performing 40 to 50 thousand assays per year.

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This laboratory served as a model for setting up city and interdistrict hormone laboratories in a number of cities and republics of the USSR (Byelorussia, Ukraine, Uzbekistan). Its experience was taken into account in developing methodological recommendations for the establishment of centralized laboratories. The range of hormonal assays enumerated in the recommended list of laboratory investigations depends on the type and size of the given medical institutions.