May 1964

The Larkin Report for 1963: Isotopic Localization of the Parathyroid Gland

E. James Potchen

Follow this and additional works at: http://epublications.marquette.edu/lnq

Recommended Citation
Available at: http://epublications.marquette.edu/lnq/vol31/iss2/9
THE JOHN J. LARKIN, JR. MEMORIAL GRANT
in aid for Medical Research
Established by the Saint Luke Guild of Catholic Physicians of Boston

To honor the memory of the late Dr. John J. Larkin, Jr., Saint Luke's Guild of Catholic Physicians of Boston makes available each year the John J. Larkin, Jr., Memorial Grant-in-Aid for Basic Research in Human Biology or Medicine.

A sum of $1000 is designated for this award to be used at the discretion of the recipient. The grant may be awarded to a research fellow, teaching fellow, resident, intern, medical student or pre-medical student who is a resident of the Greater Boston area. This award may be given to one individual or may be divided among several individuals. In the event no suitable application is received, the award may be suspended until the following year. The stipend is intended to provide some financial support for the recipient that would otherwise not be available through research grants.

Applicants should apply in writing to the undersigned, and are requested to submit information regarding age, residence, academic and professional qualifications, and publications if any. A protocol setting forth in detail the specific aims, methods, facilities, supervision and potential significance of the projected research planned should be accompanied by a letter from the Director of the school, college or hospital department in which the work will be carried out. It is stressed again that the prime purpose of this award is to ENCOURAGE ORIGINAL RESEARCH and not merely to add to the tidal wave of scientific literature. It is expected, however, that publication of any papers based on work aided by this grant will include the usual footnote acknowledging such support.

Applications must be filed with the undersigned before March 1st, 1964 and are judged by a committee of seven physicians and investigators. The award will be presented on the occasion of the annual Laetare Dinner.

CHARLES A. KANE, M.D.
Chairman, Larkin Award Committee
80 E. Concord Street
Boston, Massachusetts

Hyperparathyroidism is a disease of protein manifestation caused by the abnormal activity of a small parathyroid gland. The ability to identify externally a hyperactive parathyroid should be helpful in the medical evaluation and surgical localization of this disease. The goal of this project is the development of a clinical technique for the selective isotopic labeling of hyperactive parathyroid glands.

The basic premise that an injected amino acid precursor of parathyroid polypeptides would at some time be found within the parathyroid gland has now been well-established in both experimental animals and human subjects. The autoradiographic demonstration of an isotopically labeled amino acid within the rat parathyroid was the basis of the initial experiments. The parathyroid activity was stimulated by a low calcium diet. Thyroid protein anabolism, which was considered the most probable source of extraneous radioactive emission in the neck, was effectively suppressed with thyroxine. Methionine was selected as the amino acid of choice for these experiments because of the availability of the Se-75 selenomethionine. This is a gamma-emitting, metabolically active protein precursor which had previously been used for external scanning of the pancreas. The initial experiments utilized tritiated methionine as the low beta-emission was necessary for quality autoradiography. The autoradiographs demonstrated a selective isotopic labeling within the parathyroid in each instance.

After these developmental experiments, Se-75 selenomethionine was used in the study of selected patients with hyperparathyroidism. One patient, who was prepared with oral tri-iodo thyronine, received Se-75 selenomethionine intravenously, one hour prior to the surgical removal of a parathyroid adenoma. This tissue was radioassayed and compared with blood, thyroid, and muscle removed at the same time. The parathyroid tissue had the greatest concentration of radioisotope by a ratio of 7.8 to 1.

This technic has subsequently been used for the preoperative external scanning of patients with hyperparathyroidism. The procedure consists of administering oral triiodothyronine for 4 to 7 days preceding the intravenous injection of 200 mc. of Se-75 selenomethionine. The neck is then scanned serially using a Picker Magnascanner. In some instances, focal isotopic accretion has been correctly identified as hyperactive parathyroid tissue which was subsequently confirmed at surgical exploration. The

**Potchen, E. J. and Sodee, D. B.: Selective isotopic labeling of the human parathyroid. (to be published)

**Harvard Medical School Department of Radiology at Peter Bent Brigham Hospital; Larkin Award winner, 1963.

The Larkin Report For 1963:
Isotopic Localization of the Parathyroid Gland
E. JAMES POTCHEN, M.D.
serum flux of selenomethionine has made the scan timing of critical importance. Experiments to evaluate these kinetic interrelationships are in progress.

In summary, a technic has been developed which in some instances has been successful in the preoperative identification and localization of parathyroid adenomas. The experimental data are incomplete regarding the reliability and accuracy of this technic. Therefore the procedure cannot, as yet, be recommended for routine clinical use. The refinements and standardization of this technic should provide a simple and useful method for increasing the accuracy of clinical diagnosis and anatomic localization of hyperactive parathyroids.

(Se-75 selenomethionine was supplied by E. R. Squibb and Company.)

FEDERATION EXECUTIVE BOARD MEETING SCHEDULED

The Executive Board of the National Federation of Catholic Physicians' Guilds will hold its annual meeting June 24, 1964. Time: 10:00 a.m. - 1:30 p.m. Place: Sir Francis Drake Hotel, San Francisco, California.

The Officers of the national organization and one delegate from each active constituent Guild comprising the Board will conduct business.

Has The Time Come?*

REVEREND JAMES A. O'DONOHUE, J.C.D.**

In the spring of 1963 the Catholic medical world received a rather significant jolt when Dr. John Rock published The Time Has Come. This book, which claims to be "a Catholic doctor's proposals to end the battle over birth control," occasioned a real stir in all medical circles, both Catholic and non-Catholic. It has been the object of extraordinary praise and of violent condemnation. It has been strongly advocated almost as often as it has been vehemently denounced.

As many reviewers have pointed out, The Time Has Come is basically an _apologia_ for "the pill." Since Catholic physicians recognize most of the basic fallacies in Dr. Rock's argumentation on behalf of the purely contraceptive values of the progestational steroids, this article will proceed from a discussion of the moral implications of this use and will rather focus the reader's attention on three points suggested by the book which should be of interest to all Catholic doctors as well as to all other members of the Church: 1) the formation of the Christian conscience, 2) the Christian's right to professional freedom in the face of ecclesiastical pronouncements, and 3) the obligations incumbent upon the Christian of getting involved in matters which are of real concern for the community. No exhaustive treatment of these salient points will be attempted here. This article intends only the stimulation of mature thought on these fundamental problems and that in view of their particular applicability to The Time Has Come.

FORMATION OF THE CHRISTIAN CONSCIENCE

In the preface to his book, Dr. Rock, in attempting to justify his stand on the birth control issue, recalls a conversation he had as a boy with the parochial assistant of his home town, Father Finnick. The priest is quoted as saying: "John, always stick to your conscience. Never let anyone else keep it for you ... and I mean anyone else."

As the continuation of Christ's redemptive activity (an action incidentally which has man's freedom as its purpose), the Catholic Church must be the defender of true freedom. Among the various freedoms she must proclaim is freedom of conscience, and this indeed she does even to the point of teaching that one is obliged to follow a conscience which is objectively erroneous!! What is often forgotten in this matter, however, is the fact that the Church also insists upon the obligation such a person has to correct his erroneous conscience. Here there arises a serious problem but one which must be met: where does one find the real truth against which one can measure that which his conscience apparently presents as the truth?

The Christian has two sources from which he can derive the truth: reason and revelation. In itself, reason is capable of leading us to the truth but, because of the weakened state of our fallen nature, it must be frequently

---

*Condensation, by the author, of lecture presented to the Guild of St. Luke of Boston at Carney Hospital, November 20, 1963.

**Professor of Justice and Right, St. John's Seminary, Brighton (Boston), Mass.

MAY, 1964