

NEW YORK HEART ASSOCIATION, Inc.

NEW YORK ACADEMY OF MEDICINE BUILDING

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April 17, 1947

Mrs. Mary Woodard Lasker, Secretary
Albert and Mary Lasker Foundation, Inc.
Chrysler Building
New York 17, New York

Dear Mrs. Lasker:

One of the major activities of the New York Heart Association in relation to the advancement of knowledge in the heart diseases is its project on the natural history of the heart diseases, pursued during a period of about 25 years by a committee of experts and a group of statistical clerks especially trained for that work.

It is for the pursuit of this project for the next three years that the New York Heart Association seeks a grant-in-aid from the Albert and Mary Lasker Foundation.

Already the achievements of the study have been most satisfactory. There resulted the discovery that the term heart disease was a misnomer, that heart disease was not a single disease but a wide variety of diseases differing from each other with respect to their cause, their development, their outlook, and their control. Physicians used to attach great importance to a heart murmur, enlargement of the heart, or a disturbance of rhythm, and progress in this field was practically at a standstill until they too began to realize that what was of vital importance was the etiology, namely, the fact that the patient had rheumatic heart disease, or arteriosclerotic heart disease, hypertensive heart disease, or syphilitic heart disease, or one of the others. The publications of these investigations transformed the face of medical thinking in respect to the heart diseases.

The course of these long-range investigations on natural history was attended by numerous developments of much significance. Physicians had not agreed on a common language, but in order to integrate the work of some 50 or more cardiac clinics, it became necessary to devise a common terminology. This was predominantly the work of the committee on the study of natural history. The results have been incorporated in a volume called "Nomenclature and Criteria for Diagnosis of Diseases of the Heart", now widely employed throughout the world as a means for the uniform description of cases with heart disease.

In the first 25 years, this Committee confined itself chiefly to the description of the natural course of rheumatic fever through the study of many thousands of cases from the beginning of the disease until the end. We now know what kind of people have this disease, at what age it

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begins, how the disease progresses, how the patient's life and work are affected by it, and what factors influence it. This type of knowledge is fundamental. It serves as the basis for determining the value of any form of treatment, and points the direction which future researches need to take in order to provide the necessary cures.

As the population has grown older, the degenerative diseases have presented increasingly pressing problems. In 1925, 50% of the clinic load was rheumatic heart disease and only 20%, arteriosclerotic and hypertensive. The ratio has shifted in recent years; the degenerative have increased more than three-fold and now constitute approximately 65% of the clinic population.

The Committee for the study of the natural history of the heart diseases now proposes to turn its attention to the degenerative diseases, and hopes to be able to describe the natural history of these in much the same way. The problem is much more difficult. New techniques are needed and have to be devised. New criteria for diagnosis and a new terminology need to be established in order to insure that the physicians functioning in the numerous cooperating clinics will again be using a common language for describing their experiences.

The heart alone does not seem to be the true center of the problem of degenerative diseases, but rather the vascular system as a whole. The study of the degenerative diseases has not heretofore been approached from the standpoint of the whole vascular system, judging from the fact that these patients are at the present time, so to speak, dismembered, and clinics are set up for the study of the individual parts: a clinic on peripheral vascular diseases, a neurological clinic, a nephritic clinic, and a cardiac clinic. It is proposed to attempt to put them together under one roof and study these patients, regardless of what part of the vascular tree appears to bear the brunt of the disease. A plan has been worked out to chart the course of patients with degenerative diseases of the vessels, to learn when they begin, how fast they progress, when disability appears, how long it takes from beginning to end, and what factors appear to influence them.

During the past 25 years, the Committee dealing with research on the natural history of diseases, has already accumulated the records of some 20,000 cases of the degenerative diseases, arteriosclerosis and hypertension. A preliminary examination of some of these records is beginning to show that a wealth of vital information is to be found in them. There is already emerging the observation that so-called essential hypertension may not be a single disease at all, but a group of diseases with different causes and different behaviors. There is, for example, the young person of 35 who presents himself with a blood pressure of 160/90, in whom the disease progresses almost like an acute disease; within 2 or 3 years the pressure rises to 230/130, and within 4 years after the onset, he dies from a cerebral hemorrhage, or a coronary thrombosis, or heart failure. There is at the other extreme another kind of patient who presents himself with a blood pressure of 160/90 at the age of 35 but who may still be up and about at the age of 65 or 70, with a blood pressure not materially higher than it was in the early days. This

patient lives out his natural span of life and dies at the age of 75, at no time being seriously hampered in his life's work by his so-called hypertension. These look like two different diseases.

It is now believed, for example, that when a patient's blood pressure shows wide fluctuations, sometimes 150/90, and at other times 200/120, the hypertensive disease is in the early stages, and that as this patient moves along in life, the high blood pressure becomes fixed, and that this patient dies of the disastrous effects of the hypertensive disease. Preliminary studies of the thousands of records which have been collected by the Research Committee of the New York Heart Association are beginning to show that patients with a fixed high blood pressure and those with a widely fluctuating high blood pressure may in many cases represent different diseases, some very benign, and others malignant; in many cases the fluctuating blood pressure never does become fixed, the patient never does develop serious symptoms of high blood pressure disease, and dies of natural causes only after an active life span of 65 or 70 years, or longer.

These are examples of the kind of vital information which emerges from intensive studies of the natural history of the degenerative vascular diseases. One learns from them how to differentiate one disease from another early in their course, how to predict what is likely to happen to different types of hypertensives, all of whom are at the present time being thrown into one category under the label hypertension. In the matter of judging the value of any particular method of treatment, it is imperative to know how the disease behaves without treatment, the kind of information that comes from a study of the natural history. That point has been strongly emphasized by the recent experiences with the sympathectomy operation for hypertensive disease. This operation is now being performed on thousands of patients. There are those who maintain that it cures as many as 80% of the cases, and others who hold that it provides relief to only 4 or 5 per cent of the cases. Such differences of view arise, in part, from the fact that the natural history of disease and the wide variety of types have not been taken sufficiently into consideration. One reason is the fact that a dependable account of the natural history of these diseases does not exist.

Nibblings at this problem by isolated small-group studies of short duration will not provide the basic answers that are needed. The problem requires long-range investigations, planned by experts, and executed with the aid of highly trained statistical clerks of the kind that made possible the work of the past 25 years in the New York Heart Association. It requires the pooling of experience with thousands of patients.

No doubt can be entertained regarding the importance of the facts which these studies will supply. To carry them out presents unusual difficulties. The member clinics of the New York Heart Association, on the other hand, provide unusual facilities and opportunities for the pursuit of such studies. There is the vast amount of clinical material numbering many thousands of patients in attendance. There are many scientists there with extensive experience in the conduct of such investigations. There are in these clinics

already established high standards of performance with respect to history taking, physical examination, equipment, techniques for the recording of facts, and facilities for the training of appropriate medical and social service staffs, the equal of which is hardly to be found anywhere in the United States.

It is estimated that the per annum personnel cost of conducting the work of the Study of the Natural History of Heart Diseases will amount to \$40,580. The Research staff would be composed as follows:

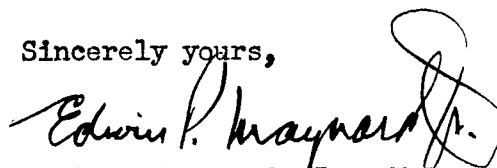
Director of Study	\$ 6,500
7 Field Workers	21,000
2 Statisticians	6,000
3 Clerical Workers	<u>7,080</u>
TOTAL	\$40,580.

Whereas the Albert and Mary Lasker Foundation has generously invited the New York Heart Association to present three studies, each requiring support not in excess of \$5,000 per annum for three years, the Association would prefer to ask in addition to the grant intended for the "Investigation Regarding the Mechanism of Thrombosis and the Possibility of Interrupting Thrombo-Embolic Processes in Man", a grant-in-aid for the Study of the Natural History of Heart Diseases in the sum of \$10,000 per annum for three years. This would mean the support of two projects instead of three but would not change the total amount of money which the Association was encouraged to ask of you.

Additional data in support of this petition can be made available quickly if you desire them and professional members of the Association who are closely associated with this work are prepared to offer any further information you may require either by correspondence or interview.

The New York Heart Association is grateful for the encouragement that your Foundation has given to our Officers and Directors and we are greatly pleased with the interest that you are taking in the Association's program.

Sincerely yours,



Edwin P. Maynard, Jr., M.D.
President