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ANNUAL PROGRESS REPORT

Report prepared by: William F. Caveness Date: 29 January 1954
For period 24 June 1953 to 31 December 1953

NR: 105049

CONTRACT: Nonr 266(26)

Annual Rate: \$28,099.

CONTRACTOR: Columbia University

PRINCIPAL INVESTIGATOR: William F. Caveness, M. D., Assistant Professor
of Neurology
Assistants: James H. Brown, M. D., Research Associate
in Neurology
Myrna Gross, Administrative Assistant

TITLE OF PROJECT: Combat Head Injury Project, Follow-Up.

Objectives:

1. To provide a better understanding of the reaction to injury in combat, and in other service incurred, head trauma.
2. To determine the place of electroencephalography in the management of these injuries.

ABSTRACT OF RESULTS:

a. Since start of project:

As a part of an integrated program of head injury evaluation by a field team, OPNAV Notice 5440, and a central research staff, NR 105049, the negotiation of Navy Contract No. 266(26) with Columbia University was completed 24 June 1953. This implemented the central research unit. Space in the Neurological Institute, 710 West 168th Street, New York 32, N. Y. was converted into office facilities for this activity. James H. Brown reported on 1 July 1953 as the Research Associate, and Myrna Gross on 1 August 1953 as the Administrative Assistant for the project.

(1) Assembly and analysis of data from the acute phase of injury.

In 1951-1952, the principal investigator, while on active duty with the U. S. Naval Medical Corps in Japan and Korea, saw 341 cases of head trauma. From 265 of these cases, significant early electroencephalographic tracings and clinical data of varying degrees of completeness have been assembled in the research office in New York. Supplementary clinical data on 136 of these cases

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are being secured from the Records Division of the Bureau of Medicine and Surgery, Navy Dept., Washington, D. C., that all may be compared. In 1953, the U. S. Navy Neurological Survey Team #1 and the Neurological Staff at the U. S. Naval Hospital, Yokosuka, Japan, carried out comprehensive evaluations on 90 patients during the acute phase of injury in Japan and Korea. The records from 88 of these cases have been received in New York.

The combined number of cases from the Far East now under study is 353, with a total of 840 electroencephalograms. Of these, 221 were closed, and 132 were penetrating (dural penetration) head injuries. Of these 353 cases, 238 were directly related to combat, 201 the result of missile injury, 37 of blast concussion. 115 were non missile injuries incurred in supporting activities.

On 14 November 1953, the Neurological Survey Team was detached from the Far Eastern Command and on 27 November 1953, members of this team reported at the U. S. Naval Hospital, San Diego, where they have continued the study of the acute phase of injury in non combat head trauma. 23 such cases have been completed and the data from these will be forwarded to the central research office in New York, to supplement the study of injuries from non missile sources

All the data received are being analyzed with particular reference to structural defects, therapeutic efforts, clinical signs and symptoms, and electroencephalography.

(2) Follow-up study of patients after they have returned to the U. S.

Of the 323 patients studied during the acute phase in the Far East, 13 died. Of the remaining, 2 were from the Air Force, 20 from the Army, 16 from Korea, 5 from U. N. troops other than Korean, and 297 from the Navy and Marine Corps. Inquiries have been sent to the 297 Marine and Naval personnel as their addresses have been accurately determined. This is in the form of a questionnaire designed to give some estimate of the development of untoward sequelae, with particular interest in post traumatic epilepsy. To date, 93 replies have been received. Of interest is the trend suggested by nine instances of repeated convulsive seizures in the 39 replies from cases with penetrating head injury, and one instance of repeated seizures in 54 replies from cases with closed head injury.

The more seriously injured of the Marine and Naval personnel have been retained on temporary retirement. They will receive additional neurologic evaluation, by members of the central research staff, in designated U. S. Naval Hospitals. The dates of these examinations will be determined by the Office of Records and Physical Qualifications, Bureau of Medicine and Surgery, Navy Department, Washington, D. C. In preparation for this, the Naval Hospitals at St. Albans, Great Lakes, Oakland and San Diego were visited by the principal investigator and the research associate in August and September, 1953. At

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that time, the mechanism of the follow-up examinations was worked out with the commanding officers and the chiefs of neuropsychiatry and neurosurgery. 14 patients were seen and examined during the subacute phase of their illness.

PLANS FOR THE FUTURE:

Immediate:

(1) Completion of the analysis of data from the acute phase of injury. This will be facilitated by I. B. M. cross reference systems.

If data from the acute phase continues to be collected at San Diego for the next twelve months, this will correspond roughly in time to the period originally selected for the team's activity, and will provide adequate material for the definitive evaluation of service incurred, non missile, wounds of the head.

Long Range:

(1) Completion of follow-up inquiries and examinations. In a search for sequelae, in each case, attention will be directed to the intervals of six, eighteen and thirty-six months following injury. The latter will provide a reasonable, and the longest practical, period for the detection of convulsive disorder.

(2) Correlation of sequelae with injury. This should provide the objectives sought, and act as the basis for improved therapy and a reduction in untoward sequelae.

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