

BODY OF REPORT

SEATO Medic Study No. 98 Eosinophilic Meningitis in Thailand
I. The Pathology of Eosinophilic Meningitis.

Project No. 3A 025601 A 811 Military Medical Research Program
S. E. Asia

Task 01: Military Medical Research Program
S. E. Asia

Subtask 01: Military Medical Research Program
SEASIA (Thailand)

Reporting Installation: US Army-SEATO Medical Research Laboratory
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 Division of Medical Research Laboratories

 Department of Geographic Pathology

Period Covered by Report: 15 January 1965 to 31 March 1965

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Reports Control Symbol: MEDDH-288

Security Classification: UNCLASSIFIED

Objective: The primary objective of this study is to obtain human brains from patients dying in provincial hospitals, for examination for the presence of eosinophilic meningitis or any reaction suggesting that the larvae of Angiostrongylus cantonensis are present. The second objective is to study the reaction of the naturally infected rats brain and orbital tissue to this parasite.

Description: Initial visits were made to hospitals in Udorn, Ubol, Korat and Prachinburi to ask for cooperation. On a second visit to these hospitals, 3 plastic pails with airtight covers will be taken to the mortuary areas and filled with buffered formalin. A label to be filled out in Thai will be attached to the pails and instructions will be given to surgical operating room workers for removal

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of brains under the supervision of a physician. In Ubol, at the mental hospital, special arrangements will be made to obtain autopsies on mental patients. When two or more brains have been collected at any provincial hospitals, arrangements will be made to pick up and deliver more buffered formalin. The hospital directors will be encouraged to have other small specimens from the autopsies fixed and to submit brief clinical summaries if possible. Reports of findings will be returned to the hospital.

Brains will be initially examined grossly by coronal section and then microscopically by routine sections from frontal cortex, hippocampus, basal ganglia, cerebellum, pons and medulla and by additional sections of any suspicious lesion. The brains will be held indefinitely and those judged worthy of further study will be sampled again and subjected to detailed dissection under a binocular stereomicroscope.

In order to learn what difficulties there may be in identifying gross lesions in human brains, monkeys will be infected as soon as materials are available and studied at intervals.

When rats are collected for epidemiologic study, lungs will be examined for adult stages and the heads of the animals will be detached, skulls opened and then fixed in formalin. The brains and orbital tissue from 20 to 50 rats with lung worms will be infected and examined histologically. Ten to 20 control rats will also be examined.

Progress: Brains are already available from the Udorn Provincial Hospital but no positive brains have been obtained. It has been reported that 6 patients died of eosinophilic meningitis in the Roi Ed Provincial Hospital during the past 3 years, but no autopsies were obtained on those patients. An attempt will be made to contact the Roi Ed Provincial Hospital. A clinical portion of our study of eosinophilic meningitis has begun in Korat and one the initial study in Korat, 16 patients were identified with this disease. Four of the patients were in the military service.

Summary: Eosinophilic meningitis probably caused by Angiostrongylus cantonensis appears to be a major medical and public health problem in Thailand. As yet no positive autopsy specimens have been obtained.

Conclusions: None.