STUDY REPORTS

1. Title — Studies of the Soluble Antigen Fluorescent Antibody (SAFA) Test for Filariasis.

Principal Investigator: Carter L. Diggs, MAJ, MC

Assistant Investigators: Stanley W. Theune, SFC
Nipon Chuanak

Period of Report: 1 January 1969 – 31 March 1969

OBJECTIVE

The objectives of this project are to standardize and evaluate the soluble antigen fluorescent antibody (SAFA) test for filariasis under the conditions existing in Thailand.

DESCRIPTION

The SAFA test will be performed according to published techniques[1] with some modifications as follows: attempts will be made to (1) standardize the antiglobulin reagent in terms of fluorescein and antibody content and (2) make fluorescence intensity measurements of presumptively normal specimens as well as those from patients with filariasis.

Standardization of antiglobulin will be achieved through the monitoring of fluorescein, protein and antibody concentrations by established methods[2] and by the adjustment of these parameters in the reagents employed. This innovation is expected to allow comparable measurements in different laboratories.

Fluorescence intensity measurements of specimens from subjects other than those with filariasis will allow an assessment of the variation in reactivity among subjects without evidence of filariasis; in particular, it is planned to study sera from subjects in an area known to be endemic for the dog heartworm, *Dirofilaria immitis*, and to compare their reactivity with that of sera from patients with microscopic or clinical evidence of filariasis and with that of sera from subjects free from known exposure to filarial worms. This is an important segment of the evaluation since the antigen employed for the SAFA test is derived from *D. immitis* and humans are possibly exposed to sensitization in many areas where canine dirofilariasis is endemic.

PROGRESS

Efforts to date have been expended primarily on the acquisition, preparation, and characterization of reagents. The feasibility of measurement of both fluorescein and protein concentrations in conjugates has been confirmed. Rabbit antisera to commercial immune serum globulin has been prepared, titrated, and labelled with fluorescein isothiocyanate. Preliminary SAFA tests using commercial *D. immitis* antigen have shown greater fluorescence with sera from patients with filariasis than with serum from Americans who have recently arrived in Southeast Asia.

SUMMARY

An evaluation of the SAFA test for filariasis is planned. Efforts to date have been essentially preparatory.

REFERENCES

1. Duxbury, R.E. and Sadun, E.H., (1967) Exptl. Parasit. 20. 77.
2. Klugerman, M.R., (1965) J. Immunol, 95. 1165.