

BODY OF REPORT

SEATO CRC Study No. 14 Red Blood Survival in G-6-PD Deficiency

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 Clinical Research

 Department of Clinical Studies

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Objective: To determine if Thai subjects with red blood cell deficiency of G-6-PD have hemolytic disease in the absence of known hemolytic agents or infection.

Description and Progress: Red blood cell deficiency of Glucose-6-Phosphate dehydrogenase is usually thought to cause hemolysis only in the presence of certain drugs and foods or infections. This has been substantiated only by normal hemoglobin levels, reticulocyte counts and bilirubin levels. However, a shortened half time of tagged cells has been demonstrated in 3 American Negroes with this deficiency.

Six male Thai subjects with complete absence of red blood cell Glucose-6-Phosphate dehydrogenase activity by spectrophotometric assay were studied by Cr⁵¹ red blood cell tag to determine half times. They were asymptomatic, without evidence of anemia or hemolysis, as measured by hemoglobin levels and reticulocyte counts. They avoided all drugs during the course of the study. The results are tabulated as follows:

<u>Patient No.</u>	<u>T/2</u>
1	24.0
2	23.6
3	20.9
4	27.4
5	23.7
6	20.8

Normal T/2 by this method is 25 days, and abnormal is 20 days.

Conclusions: No definite evidence of hemolysis was demonstrated in 6 Thai subjects with red blood cell G-6-PD deficiency when studied by the Cr⁵¹ tagged red blood cell technique. It is planned to continue these studies using DFP³².