

ADRENAL STUDY

Title: Adrenal Function in Thai people

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- Objectives
1. To determine base line values for 17-hydroxysteroid and 17-ketosteroids in Thai people.
 2. To determine the response in 17-hydroxysteroid and 17-ketosteroid excretion to exogenous ACTH and endogenous ACTH in Thai people.

Description There is firm data in the literature to establish normal values for 17-hydroxysteroids and 17-ketosteroids in "Western" people i.e. Europeans and North Americans. There are significant differences in body size, nutritional status and genetic background between this group of people and the Thai population. It is imperative therefore that base lines in steroid excretion be established in Thailand before definitive work in endocrinopathies or in the metabolic response to systemic and infectious diseases can be accomplished. In this study control subjects are hospitalized on a metabolic ward and twenty-four hour urine specimens are obtained under basal conditions. On each specimen 17-ketosteroids are determined by the Zimmermann reaction and 17-hydroxysteroids measured as chromogens by the Porter-Silber method.

Metopirone, an 11β -hydroxylation inhibitor, is then given to depress the level of circulating cortisol in the blood which in turn provides maximal stimulation for endogenous ACTH secretion by the pituitary. The response to this endogenous stimulation is monitored by determination of the expected increase in urinary corticosteroid excretion.

Following a control period of two days exogenous stimulation using ACTH, 70 U. i.v. over an eight hour period, is performed on two successive days. This provides maximal stimulation to the adrenals to increase corticosteroid secretion and excretion.

Progress A total of four adult Thai females ranging in age from 20 years to 42 years have been studied to date. The mean values for 17-hydroxysteroids and 17-ketosteroids for this group are plotted in figures 1 and 2.

The results of this small group fall within the expected normal ranges of the western population. In addition to the data on normal females, a patient documented to have hypopituitarism is also presented in these figures. This patient was found to have Sheehan's syndrome, and the initial case report of this condition in Thailand has been accepted for publication in the Thai medical literature.

Fig. 1 17 Hydroxy steroid response to Endogenous and Exogenous Stimulation

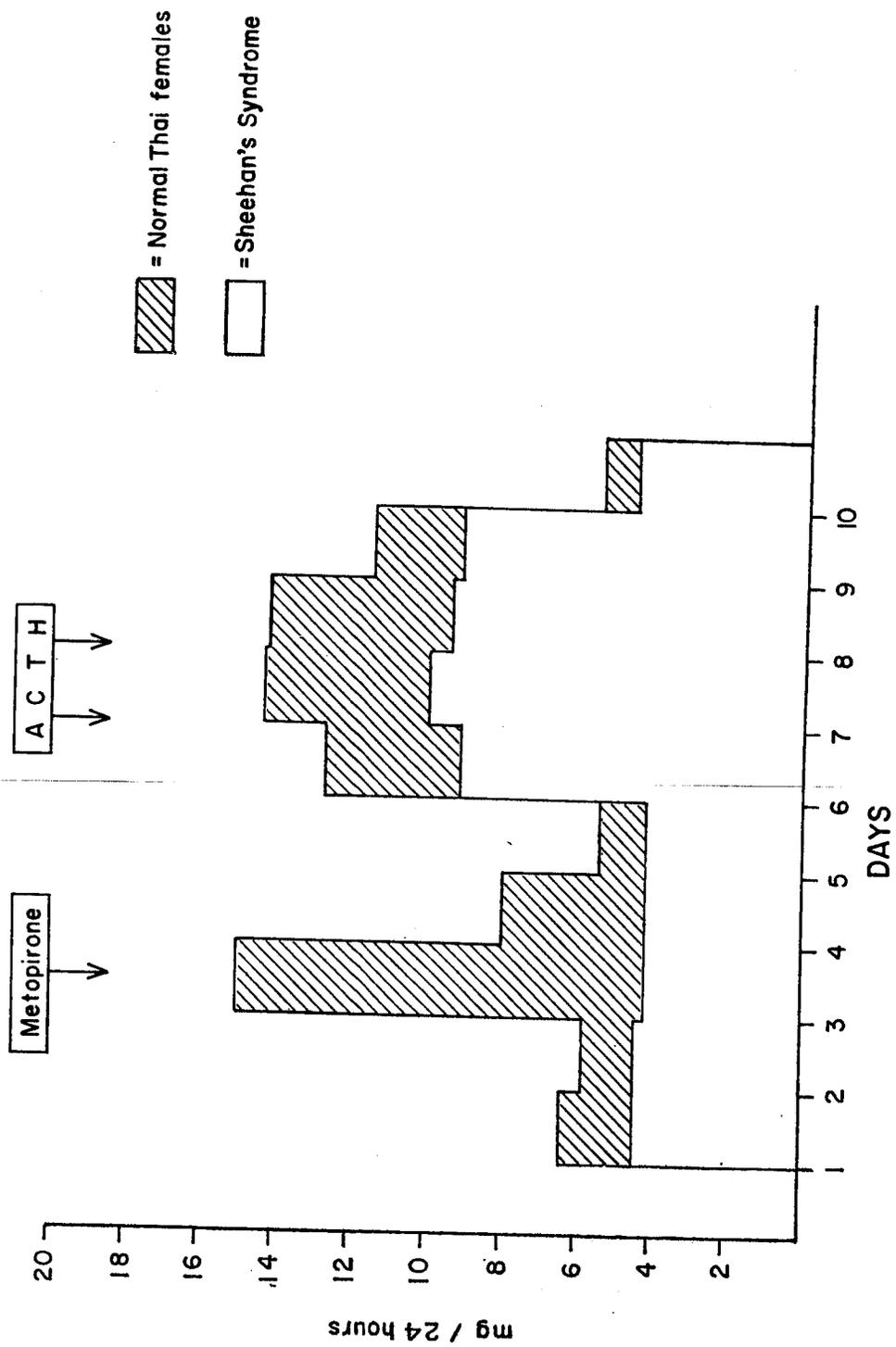


Fig. 2 17 Keto steroid response to Endogenous and Exogenous Stimulation

