

Thesis Title Serum Melatonin Levels in Human Subjects from
 the Northeastern and Central Parts of Thailand

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Date of Graduation

 6 May B. E. 2537 (1994)

ABSTRACT

Sudden Unexplained Nocturnal Death Syndrome (SUNDS) or "Lai Tai" is prevalent among Thai males from Northeastern part of the Thailand. Among several signs and symptoms, these patients also develop sleep disorder, the condition relating to biorhythm and circadian melatonin levels. The aim of this study was, therefore, to determine the circadian rhythm and amplitude of serum melatonin levels in human subjects from the Northeastern and Central parts of Thailand. Seven Northeastern male subjects and six Central male subjects volunteered in the study; all of them were without previous serious illnesses. Every subject rested for 24 hr in a room that has regular light during the day and dim-light during the night. Blood was withdrawn from individual subjects during the second day of housing. The period of sunlight was between 06.00-18.00 hr. To collect the blood samples, an indwelling intravenous catheter was inserted and blood was withdrawn every 3 hr

from 07.00 hr to 22.00 hr and every 2 hr from 22.00 hr to 07.00 hr. The blood was allowed to clot. Serum was isolated and collected in test tube, centrifuged, frozen immediately, and stored at -70°C until assay. The samples were analyzed in duplicate. Data were statistically analyzed by Mann-Whitney U test. Melatonin levels from the Northeastern subjects were lower than those from the Central subjects at daytime ($P < 0.05$). The nighttime levels, however, did not statistically differ, although higher levels were observed in the Central subjects. The onset of rise in serum melatonin at night in the Central subjects was 3 hr earlier than the Northeastern subjects. These preliminary data in suggests different biorhythm of melatonin secretion between the two groups of population. Further study on melatonin rhythm in patients surviving SUNDS would be of interest.