

## C527025 : MAJOR ZOOLOGY

KEY WORD: MORPHINE / MENOPAUSAL FEMALE MONKEY / PROLACTIN / THYROID HORMONE  
NUTCHARIN KLEAWKLA : RESPONSE PATTERNS FOR THE RELEASE OF PROLACTIN  
AND THYROID HORMONES IN AGED FEMALE Macaca fascicularis CONTINUOUSLY  
TREATED WITH MORPHINE. THESIS ADVISOR : PROF. M.R. PUTTIPONGSE VARAVUDHL,  
ph.D., THESIS CO. ADVISOR : ASSO. PROF. VITTAYA YODYINGYUAD, Ph.D. 70 pp. ISBN  
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The objectives of this study were 1) to investigate the adjusting ability for the release of PRL, T<sub>4</sub> and T<sub>3</sub> as acute response patterns in aged menopausal female monkeys that were continuously treated with morphine, and 2) to investigate the recovery of PRL, T<sub>4</sub> and T<sub>3</sub> releasing patterns after morphine withdrawal and side effects of morphine compare to before and during treatment periods.

Aged female monkeys receiving morphine at daily dose of 3.0 mg/kg responded by releasing high PRL levels during 20-180 min after morphine administration and showed the highest peak (1643.2 mIU/L) at 60 min. They tended to develop drug tolerance by releasing lower PRL levels as morphine administration time was prolonged (the lowest value was 486.7 mIU/L on days 63).

Morphine withdrawal for 44 days was sufficient for the recovery and the release of PRL return to a comparable level found in the first phase. They tended to develop similar drug tolerance again when morphine administration was repeated (1784.9 mIU/L on day 1 and 486.9 mIU/L on day 63).

There were no significant differences in serum T<sub>4</sub> and T<sub>3</sub> levels between treated and normal values. Nevertheless, T<sub>4</sub> and T<sub>3</sub> levels of post-treatment were slightly lower than both pre-treatment and treatment periods.

These results suggested that all aged menopausal monkeys studied responded to morphine administration by the release of PRL slower than adult and pubertal male monkeys ever studied in this Primate Research Unit. Morphine has no effect on serum T<sub>4</sub> and T<sub>3</sub> equilibrium during 300 min after treatment. Morphine withdrawal has some effects in lowering T<sub>4</sub> and T<sub>3</sub> levels in long term. Monkeys with stress symptom released higher PRL levels than others. Finally, spontaneous galactorrhea may be a process unrelated to PRL increase in the serum.

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