Urinary and fecal immunoglobulin A, cortisol and 11-17 dioxoandrostanes, and serum cortisol in metabolic cage housed female cynomolgus monkeys (Macaca fascicularis)

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Abstract

Background and methods Quantitative enzyme-immunoassays of urinary and fecal immunoglobulin A (IgA), cortisol and 11-17-dioxoandrostanes (11,17-DOA), and serum cortisol in eight metabolic-cage-housed female cynomolgus monkeys were performed. The monkeys were divided into two groups, B and NB. Group B animals were blood sampled every 6 hours, whereas Group NB animals were not handled/blood sampled.

Results No differences were recorded between the amounts of feces and urine excreted by the two groups. Group B animals excreted more urinary cortisol than did Group NB animals indicating that restraint-blood sampling resulted in a stress response. Excreted amounts of IgA and 11,17-DOA (urine and feces) did not differ between the groups.

Conclusions Urinary cortisol was a reliable marker of the stress associated with repeated blood sampling. Declining amounts of excreted urinary cortisol indicated that cynomolgus monkeys acclimated quickly to repeated blood sampling in metabolism cages. Within and between animal variation in amounts of feces voided demonstrated the importance of expressing fecal markers as 'amounts excreted per time unit per kg body weight' rather than just measuring the concentrations in fecal samples.

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KEYWORDS
cortisol • cynomolgus monkey • immunoglobulin A • long tailed macaque • Macaca fascicularis • metabolism cage