Changes in Serum Immunoglobulin Levels Among Cynomolgus Monkeys with Long Term Morphine Treatment

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Abstract

Effects of chronic morphine exposure to monkeys on humoral immune status with reference to serum cortisol levels were studied. Male cynomolgus monkeys (Macaca fascicularis) were exposed to morphine daily (3mg/kg; n=3, 6mg/kg; n=3) and their blood samples were collected every week to test serum levels of immunoglobulins and cortisol.

Serum cortisol levels decreased initially and then elevated gradually. Levels of immunoglobulins, IgG and IgM, in monkeys exposed to large dose (6mg/kg) of morphine was lower than that in monkeys with small dose (3mg/kg). An elevation in IgG levels was observed in monkeys treated with the small dose of morphine but consistent reduction in the serum IgG levels was observed in monkeys exposed to morphine with the large dose. Therefore, chronic exposure to the large dose of morphine may lead to immunosuppression and result in disease prone status.

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