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Effects of Chronic, High-dose LHRH-Agonist Treatment on Pituitary and Testicular Functions in Rhesus Monkeys

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The effects of chronic, high-dose treatment with an LHRH-agonist (D-Ser-(Tbu)⁶-LHRH-ethylamide) on pituitary and testicular functions were investigated in four adult rhesus monkeys in-season. Doses of 4 µg of agonist per day for eight weeks followed by 20 µg/day for four weeks caused a significant decrease in testicular volume and a transient suppression of sperm counts, although counts at the end of treatment were not different from control values. Basal levels of LH were not altered by chronic treatment. Responses to acute stimulation with high and low doses of LHRH or the agonist were measured in terms of the LH increase over basal values and the cumulative response. The results indicate that the pituitary capacity was not affected, but that the sensitivity to low doses was decreased after 12 weeks. Basal testosterone concentrations were decreased during the early and later phases of treatment. The testosterone increase in response to acute stimulation with LHRH or its agonist was not suppressed by chronic treatment, although the cumulative response to low doses of both substances was less after 12 weeks of treatment with high doses of the agonist.

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