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JOURNAL ARTICLE

Reversal of testicular function after prolonged suppression with an LHRH agonist in rhesus monkeys

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Using subcutaneously implanted osmotic pumps, four male rhesus monkeys were continuously infused for 18 months with 100 micrograms/day of [(imBzl)-D-His6-Pro9-NEt]-LHRH (LHRH-A), a potent agonist of LHRH. After an initial increase, serum testosterone levels declined to 10% of pretreatment levels in three monkeys and the response to electroejaculation was lost. There was a decrease in testicular volume. Androgen replacement in the form of subcutaneous SILASTIC implants releasing 7 alpha-methyl-19-nor-testosterone acetate led to a restoration of ejaculatory response and the electroejaculates were devoid of spermatozoa. Under this treatment regimen (100 micrograms LHRH-A + 100 micrograms androgen daily), azoospermia was essentially maintained in the three monkeys for about 8 months. Withdrawal of LHRH-A and androgen treatment led to a complete restoration of testicular function. Serum testosterone returned to control levels and spermatozoa reappeared in the ejaculates with sperm counts reaching the normal range. Testicular volumes showed a gradual increase. These results indicate that continuous administration of an LHRH agonist together with an androgen can induce an extended period of azoospermia in rhesus monkeys. These results also show that after prolonged suppression (more than one year) of testicular function complete recovery occurs after cessation of treatment.

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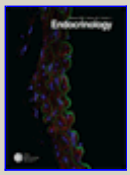

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