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JOURNAL ARTICLE

Effects of castration and recombinant human inhibin administration on circulating levels of inhibin and gonadotropins in adult male monkeys

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Inhibin has been suggested to play a role in gonadal feedback regulation of follicle-stimulating hormone (FSH) secretion; however, neither the half-life nor the time course of action of recombinant inhibin has been reported in any primate species. We sought to determine the disappearance half-life of circulating endogenous inhibin following castration in adult male monkeys, Macaca fascicularis, and to determine the half-life of administered recombinant human inhibin A and its effect on bioactive FSH and luteinizing hormone (LH) levels in castrate monkeys. Endogenous inhibin fell from 8,122 +/- 2,077 U/L (mean +/- SEM, n = 5) prior to castration to 383 +/- 84 U/L at 24 hours and 269 +/- 44 U/L at day 21 ($P < 0.05$ at 24 hours vs. day 21) (detection limit of assay 234 U/L). The early phase half-life of endogenous inhibin was 34 minutes (between 8 and 60 minutes) and a later phase half-life of 75 minutes was observed between 1 and 4 hours following castration. Recombinant inhibin exhibited a 14-minute early phase half-life between 8 and 60 minutes following the 5 micrograms intravenous (i.v.) recombinant inhibin dose, and a later phase half-life of 70 minutes between 1 and 4 hours in castrate monkeys (n = 3). Serum inhibin levels were maintained within or above the precastration range for 15 minutes. Single dose recombinant inhibin, 100 micrograms subcutaneous (SC) or intramuscular (IM) administered to castrate monkeys (n = 3), achieved and maintained normal serum inhibin levels for 6 hours.(ABSTRACT TRUNCATED AT 250 WORDS)

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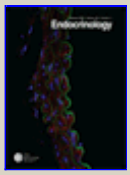

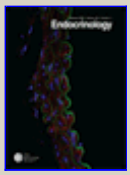

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