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JOURNAL ARTICLE

Heterogeneity of sperm density profiles following 16-week therapy with continuous infusion of high-dose LHRH analog plus testosterone

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LHRH agonist analogs have been investigated as potential male contraceptives. It has been shown that the LHRH agonistic analog [D-Trp⁶,Pro⁹-NET] LHRH (LHRHA) given to men in single doses up to 500 micrograms daily for up to 20 weeks with the coadministration of testosterone enanthate produces reversible oligozoospermia.

Individual responses to the treatment, however, were variable. In this study, we gave the same analog to eight normal male volunteers as a continuous infusion of 500 micrograms daily for 16 weeks. Testosterone enanthate, 100 mg, was given by injection every second week. Six of the subjects became oligozoospermic but the other two retained sperm counts that were greater than 20 million/ml, although their treatment continued for 20 weeks. The reasons for this variability of response are not clear. Serum immunoreactive LH values increased during the infusion period whereas testosterone declined. FSH values fell during treatment in all subjects except the two non-responders. The acute pituitary response to LHRHA during the treatment or shortly thereafter (48 h) was completely abolished, and bioactive LH values were suppressed totally. FSH, LH, testosterone and sperm counts returned to normal in all subjects following discontinuation of LHRHA infusion. Continuous infusion of 500 micrograms of LHRHA daily for 16 weeks with 100 mg of testosterone enanthate every 2 weeks induced desensitization of the pituitary, loss of LH bioactivity, and decreases of FSH and testosterone. This mode of administration, however, did not improve sperm density results obtained earlier by single daily injections of the analog. Heterogeneity of sperm density profiles still persists for reasons that are not yet clear.

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