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1: [J Clin Endocrinol Metab.](#) 1990 Oct;71(4):881-8.

Links

**Hormonal responses to a potent gonadotropin hormone-releasing hormone antagonist in normal elderly men.**

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GnRH analogs, both agonists and antagonists, have potential use in androgen-dependent diseases of older men, such as prostatic cancer and benign prostatic hyperplasia. Previous experience with agonists of GnRH has suggested that GnRH analogs may be more effective in aged men than in young men, but little is known about GnRH antagonists in older men. Therefore, we evaluated the hormonal effects of a single dose and a short course of a GnRH antagonist (Nal-Glu) in normal elderly men. Six young men (25-34 yr old) and six older men (66-76 yr) each received single morning injections of Nal-Glu (25, 75, and 250 micrograms/kg), separated by 2 weeks. Serum levels of testosterone (T), immunoreactive LH (LH RIA) and FSH (FSH RIA), and bioactive LH (LH BIO) were evaluated periodically for 7 days after each injection. In addition, six elderly men received 25 and 75 micrograms/kg.day Nal-Glu for 10 consecutive mornings each, and serum levels of T, inhibin, LH RIA, LH BIO, FSH RIA, and bioactive FSH were evaluated. Nal-Glu in all three single doses caused a significant (P less than 0.01) decline in serum levels of T and gonadotropins that was similar in extent in the elderly and young men. For example, T declined to a level of 19% of baseline after the 250 micrograms/kg dose of Nal-Glu in both age groups. For both the young and elderly men, the major effect of increasing the Nal-Glu dose was a prolongation of the period of suppression. Multiple Nal-Glu injections in the elderly men also resulted in a rapid decline in T, inhibin, and bioactive and immunoreactive gonadotropins. For both LH and FSH, bioactivity decreased to a greater extent than immunoreactivity. Local side-effects of Nal-Glu tended to be fewer and of less intensity in the elderly men compared to those in the young men. These results demonstrate that the response to Nal-Glu in healthy elderly men is similar to that in younger men, and extended administration of Nal-Glu in elderly men effectively suppresses gonadal and pituitary function. These results suggest that the role of GnRH antagonists in the effective treatment of androgen-dependent disease in the aging male needs to be explored further.

Related Links

A comparison of the suppressive effects of testosterone and a potent new gonadotropin-releasing hormone antagonist on gonadotropin and inhibin levels in normal men. [[J Clin Endocrinol Metab.](#) 1989]

Induction of azoospermia in normal men with combined Nal-Glu gonadotropin-releasing hormone antagonist and testosterone enanthate. [[J Clin Endocrinol Metab.](#) 1992]

Mode of suppression of pituitary and gonadal function after acute or prolonged administration of a luteinizing hormone-releasing hormone antagonist in normal men. [[J Clin Endocrinol Metab.](#) 1989]

Persistence of concordant luteinizing hormone (LH), testosterone, and alpha-subunit pulses after LH-releasing hormone antagonist administration in normal men. [[J Clin Endocrinol Metab.](#) 1990]

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