

Letter to the Editor: Testosterone priming increased growth hormone peak levels in the stimulation test and suppressed gonadotropin secretion in three Japanese adolescent boys

Kentaro Sawano¹ and Keisuke Nagasaki¹

¹Department of Pediatrics, Niigata University Medical and Dental Hospital, Niigata, Japan

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Dear Editor,

We read with interest the article by Sato *et al.*, entitled “Testosterone priming increased growth hormone peak levels in the stimulation test and suppressed gonadotropin secretion in three adolescent Japanese boys” in *Clinical Pediatric Endocrinology* (1). GH responsiveness to the GH stimulation test (GHST) is attenuated during the period just before puberty; however, testosterone priming may prevent unnecessary GH treatment (2). We reported two adolescent boys with suspected severe GH deficiency (GHD) in whom GH response normalized after testosterone priming.

Case 1: An 11-yr-old boy with reduced growth rate was diagnosed with severe GHD via GHST. A clonidine test and arginine test administered at another hospital revealed peak GH levels of 1.06 and 1.26 ng/mL, respectively. The patient's height was 144.5 cm (−0.19 SD), and he weighed 83.5 kg. His serum IGF I and testosterone levels were 156 ng/mL (−1.5 SD) and 0.14 ng/mL, respectively. One week after testosterone priming with a 125 mg intramuscular injection, his peak

GH levels, as measured by an insulin tolerance test (ITT) and GH-releasing peptide-2 stimulation test, were 10.2 and 21.97 ng/mL, respectively. Moreover, his annual growth rate increased by 9 cm without GH replacement therapy. Case 2: A 13-yr-old boy with short stature was diagnosed with severe GHD via GHST. A clonidine test and arginine test revealed peak GH levels of 0.93 and 0.64 ng/mL, respectively. His height was 139.1 cm (−2.2 SD), and his weight was 41.5 kg. His serum IGF I and testosterone levels were 113 ng/mL (−2.3 SD) and 0.15 ng/mL, respectively. One week after testosterone priming, his peak GH levels, as measured by an ITT and arginine test, were 9.2 and 5.2 ng/mL, respectively. He is undergoing follow-up without GH replacement therapy.

Results of our case studies show that testosterone priming improves GH responsiveness, even in cases of suspected severe GHD.

Conflicts of interests: The authors declare no conflicts of interest associated with this manuscript.

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Corresponding author: Keisuke Nagasaki, M.D., Ph.D., Department of Pediatrics, Niigata University Medical and Dental Hospital, 1-757 Asahimachi-Dori, Chuoh-ku, Niigata City, Niigata 951-8510, Japan

E-mail: nagasaki@med.niigata-u.ac.jp



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