Medical Xpress

Medical intervention in transgender adolescents appears to be safe and effective

June 17 2013

Hormone treatment to halt puberty in adolescents with gender identity disorder does not cause lasting harm to their bones, a new study finds. The results were presented today at The Endocrine Society's 95th Annual Meeting in San Francisco.

"Hormonal interventions to block the pubertal development of children with gender dysphoria are effective and sufficiently safe to alleviate the stress of gender dysphoria," said the study's lead author, Henriette Delemarre-van de Waal, MD, PhD, a professor of pediatric endocrinology at Leiden University Medical Center, Leiden, The Netherlands.

An adolescent who identifies as the opposite sex—now called transgender or gender dysphoric rather than transsexual—often considers the body changes of puberty to be unbearable, Delemarre-van de Waal said.

"Reversible hormone treatment can relieve the psychological suffering of youth with gender dysphoria and allows the adolescent time to explore whether permanent hormone treatment and sex reassignment surgery is the best option," she said.

Treatment early in puberty—ages 12 to 14 years—with medication called gonadotropin-releasing hormone analogs (a derivative of the physiologic hormone), or GnRHa, blocks production of the sex hormones that bring on puberty and can make slightly developed sex

characteristics go away. However, puberty is the time when buildup of bone mass typically occurs.

"There were concerns that blocking the hormones of puberty at the normal age of puberty would have long-term deleterious effects on bone health," Delemarre-van de Waal said.

To study the bone health of adolescents with gender identity disorder who received puberty suppression treatment with GnRHa, the researchers followed up 127 such patients who later chose to receive "cross-sex hormones" to induce sexual characteristics of the opposite sex. Fifty-three boys transitioned to the female sex by taking estrogen, and 73 girls transitioned to the male sex by receiving testosterone, the authors reported. They received cross-sex hormones beginning at age 16 years. This age is in agreement with Dutch law and The Endocrine Society guidelines for treating transgender persons, which Delemarre-van de Waal helped develop.

Suppression of puberty was well received, according to Delemarre-van de Waal. The patients reported satisfaction and no regrets regarding suppression of puberty. However, many of them commented that age 16 was too late to start taking cross-sex hormones, she said.

At the start of GnRHa treatment, all patients had normal bone mineral density, Delemarre-van de Waal reported. During GnRHa treatment, bone density gradually increased in the younger patients but slightly decreased in the older ones. However, after the teens received cross-sex hormones, bone density caught up, similar to the increase that occurs naturally in puberty, she said. All patients had normal or near-normal bone mass for their age after cross-sex hormone therapy.

"Remarkably, the highest bone mineral density was in the patients who had started hormonal intervention with GnRHa at an early pubertal

stage," she said. "These findings reaffirm that halting puberty in gender-dysphoric adolescents is a responsible practice that will not harm bone health."

Provided by The Endocrine Society