Rostrum

Buying time or arresting development? The dilemma of administering hormone blockers in trans children and adolescents

Guido Giovanardi

Department of Dynamic and Clinic Psychology, Faculty of Medicine and Psychology, Sapienza University of Rome, Rome, Italy

A R T I C L E   I N F O

Article history:
Received 10 June 2017
Accepted 14 June 2017
Available online 5 July 2017

Keywords:
Gender dysphoria
Hormone blockers
GnRH analogues
Puberty
Transgender

A B S T R A C T

In recent years, the use of gonadotropin-releasing hormone (GnRH) analogues in adolescents with gender dysphoria (GD) to suppress puberty has been adopted by an increasing number of gender clinics, generating controversial debate. This short essay provides an overview of the difficulties associated with this heterogeneous group of adolescents and discusses arguments for and against the suspension of puberty. Further, it reviews the main follow-up studies conducted in some of the world’s largest clinical centres for gender-variant children and adolescents.

Buying time or arresting development? The dilemma of administering hormone blockers to suppress puberty is now acknowledged, for instance, that children’s GD/GV persists after puberty in only 10–30 per cent of all cases; when it does not, the children are referred to as ‘desisters’. At present, there is no way to predict which individuals will or will not suffer from GD into adolescence or adulthood. However, ‘persisters’, whose GD continues into adolescence, are more likely to experience GD in adulthood (to a degree of almost 80 per cent).

Whether or not GD persists, gender-variant children are at risk of suffering many psychological adversities, mostly linked to body dissatisfaction (e.g.6) and a lack of acceptance within the family and social environment (e.g.7). Children with GD have been shown to be more psychologically vulnerable in comparison to the general population (e.g.8–10). Their psychological problems seem to be of a more internalised nature (e.g. depression, anxiety, eating disorders) than an externalising nature.10,11 However, there is considerable variability across studies (for an overview, see12). For these children, family and peer relations are generally poorer than for non-referred children (e.g.10,15). As Bandini and colleagues15 point out, it has been demonstrated that children showing gender variance are at higher risk for maltreatment and abuse.16,17 Moreover, some studies have reported a high frequency in trans persons of childhood sexual and physical abuse, perpetrated by parents and caregivers (e.g.19–21). Finally, research has shown that trans youth are at higher risk of self-harm, suicidal ideation and suicidal attempts (e.g.22–24).

To address the clinical needs of such a complex population and to reduce their risk, specialised centres have developed various models of intervention. One of those, on which this short essay focuses, is the use of hormone blockers to suppress puberty.
This methodology is becoming increasingly common in several specialised centres. The intervention was developed by Dutch clinicians in the framework of a combined approach, including medical therapies as well as psychotherapy, social intervention and family work.25–28 It consists of a fully reversible medical therapy that suspends pubertal development. Individuals who have reached Tanner stage 2 or 329 and are considered eligible for treatment28 are administered gonadotropin-releasing hormone (GnRH) analogues, which temporarily suspend pubertal development. These analogues act on the pituitary gland, inhibiting hormone secretion and temporarily suppressing the endogenous production of oestrogen in girls and testosterone in boys. These hormones are sometimes called ‘blockers’, because they prevent the development of secondary sex characteristics. During this stage of treatment, in the absence of pubertal physical changes, the child is guided through an exploration of other gender roles, in order to experience congruence with the presumed innate gender identity. As Steensma and colleagues30 point out, the suspension provides adolescents with GD ‘time and rest before making definite decisions on gender reassignment without the distress of developing secondary sex characteristics’. Cohen-Kettenis and colleagues27 consider it an extended diagnostic phase, in which the distress that the physical feminisation or masculinisation was producing is significantly reduced. For these authors, the early suppression entails great advantages for transitioning to the desired role throughout one’s life, and thus minimises the harm to youth and maximises their opportunity for good social and sexual relationships. The process of passing to the other gender is made significantly easier.

The child normally also receives psychological assistance in determining whether or not to proceed to hormone therapy – specifically, the administration of cross-sex hormones, which is the first step in irreversible gender reassignment. Alternatively, she or he may interrupt therapy and revert to the assigned gender. Once endogenous sex hormone production is resumed, the pubertal development is thought to restart normally.31,32

Although the use of puberty suppressants is described in international guidelines, there is no consensus in the Endocrine Society Guidelines and the Standards of Care of the World Professional Association of Transgender Health.33,34 The primary risks of pubertal suppression include adverse effects on bone mineralisation (which can theoretically be reversed with cross-sex hormone treatment) and compromised fertility; data on the effects on brain development are still limited.20,35

Several studies have proven the effectiveness of early medical interventions and the safety of these interventions with regard to physical and psychological harm. Overall, research has shown improved psychological functioning during suppression, no change of mind in terms of gender identity and the reduction or disappearance of distress related to GD; in addition, several studies have reported an increase in GD and harmful behaviour when blockers are not used.34,36

In their longitudinal study on the first 70 adolescents to receive puberty blockers, de Vries and colleagues37 reported an improvement in general functioning after two years, along with a decrease in depression and behavioural and emotional difficulties. Fifty-five of these 70 individuals were assessed later in early adulthood, after cross-sex hormones had been administered and gender reassignment surgery had been performed. Depressive symptoms had decreased, general mental health functioning and no regret about transitioning was found. Many (about 70 per cent) reported that their social transition had been ‘easy’. Cohen-Kettenis and colleagues,38 in a 22-year follow-up of the first described adolescent treated with GnRH analogues and cross-sex hormones, reported overall improved psychological well-being and no clinical signs of adverse effects on the brain. An improvement in global functioning following puberty suppression was also found in the UK study of Costa and colleagues39 in their follow-up of adolescents at the GIDS centre in London. Consistent with the Dutch and British studies was Spack and colleagues’ report40 about their sample of 97 patients at a clinic in Boston, MA, in which no adolescents showed regrets regarding puberty blocking or subsequent cross-sex hormone use. However, use of this intervention has only recently begun, so no other follow-up studies are available and many questions are still unanswered. Thus, many professionals remain critical about the puberty-blocking treatment (e.g.25,41,42). The primary counterarguments are as follows:

1. At Tanner stage 2 or 3, the individual is not sufficiently mature or authentically free to take such a decision.25,41
2. It is not possible to make a certain diagnosis of GD in adolescence, because in this phase, gender identity is still fluctuating.25,41,42
3. Moreover, puberty suppression may inhibit a ‘spontaneous formation of a consistent gender identity, which sometimes develops through the “crisis of gender”’ (p. 375).41
4. Considering the high percentage of desisters, early somatic treatment may be premature and inappropriate.25
5. Research about the effects of early interventions on the development of bone mass and growth – typical events of hormonal puberty – and on brain development is still limited.7 so we cannot know the long-term effects on a large number of cases.
6. Although current research suggests that there are no effects on social, emotional and school functioning, ‘potential effects may be too subtle to observe during the follow-up sessions by clinical assessment alone’ (p. 1895).25
7. The impact on sexuality has not yet been studied, but the restriction of sexual appetite brought about by blockers may prevent the adolescent from having age-appropriate socio-sexual experiences.41
8. In light of this fact, early interventions may interfere with the patient’s development of a free sexuality and may limit her or his exploration of sexual orientation.41,42
9. Finally, for trans girls (natal boys with a female gender identification), the blockage of phallic growth may result in less genital tissue available for an optimal vaginoplasty.41

Vrouenaets and colleagues45 conducted a remarkable study interviewing various professionals of 17 treatment teams of children and adolescents worldwide, finding that the majority of professionals recognised the distress of teens with GD/GV and felt that early intervention was urgently needed. At the same time, though many teams embraced the so-called ‘Dutch approach’, a general feeling of unease was expressed, due to the lack of long-term physical and psychological outcome studies. One of the main arguments in support of early intervention was limiting suicidal risk. Subsequently, the same group46 interviewed trans adolescents. Surprisingly, the adolescents also seemed cautious. Many had doubts about the ability of a person so young to make such a significant decision, but they also emphasised the capital importance of preventing the development of secondary sexual characteristics. The adolescents seriously weighed the short- and long-term consequences of treatment, but this awareness did not stop them from wanting to suspend puberty.

---

6 Eligibility criteria for hormone blockers are: (i) a presence of gender dysphoria from early childhood on; (ii) an increase of the gender dysphoria after the first pubertal changes; (iii) an absence of psychiatric comorbidity that interferes with the diagnostic work-up or treatment; (iv) adequate psychological and social support during treatment; and (v) a demonstration of knowledge and understanding of the effects of GnRH, cross-sex hormone treatment, surgery, and the social consequences of sex reassignment’ (Cohen-Kettenis et al., 2008, p. 1894).
Finally, a warning comes from Alessandra Lemma, a psychoana
ylytic child who has contributed important and innovative insights
into transsexualism. 57,48 In a recent paper, she worryingly suggests
that in some instances puberty suppression can “result in a marked
distortion in the young person’s relationship to time” (p. 361)59 that
will negatively impact the adaptation and integration of identity
following gender transition.

Conclusion

I hope that this brief excursion has clarified the supporting and
opposing arguments with respect to the use of hormone blockers
to suppress puberty. On the one hand, the treatment might impede
experiences that are seriously traumatic for individuals with pro-
fessionally and accurately diagnosed GD, limiting suicidal risk and
preventing other adverse psychological consequences. On the other
hand, the treatment risks hindering the individual’s development
of a free personality, sexuality and identity, thus disconnecting
the young person from the typical experiences of her or his age, with
no certainty of the long-term effects on physical health. Suppression
of puberty may suggest that the person is deprived of adolescence
– the crucial time to deal with identity issues, experiment and pur-
sue unstable convictions regarding the self. However, as Bernadette
Wren suggests, there is no evidence that “young people’s conviction
about their gender identity is, typically, as unstable as other value-
laden convictions” (p. 224).60 From a psychological perspective,
the main dilemma is to understand whether buying time at such
a precarious age truly enables children to explore deep personal
meanings, or whether it freezes youngsters in a prolonged child-
hood, excluding them from certain aspects of reality and isolating
them from peer groups. This is a rather difficult issue to confront in
quantitative follow-up studies (which of course are crucial for mon-
itoring physical and psychological outcomes). Thus, qualitative and
clinical studies may have a great deal to offer, especially when con-
ducted by expert clinicians who know these children very well.
In any case, as for many other aspects of gender identity development,
it is crucial that a person-by-person approach is adopted (as per-
formed by the abovementioned gender clinics) to tailor effective
and appropriate interventions according to individual needs.

Conflicts of interest

The author declares no conflicts of interest.

References

Evidence for an altered sex ratio in clinic-referred adolescents with gender dys-
Clinical topics in child and adolescent psychiatry. London: The Royal College of
Psychiatrists; 2014. p. 349–64.
4. Drescher J, Byne W. Gender dysphoric/gender variant (GD/GV) children and ado-
clescents: how to tell the difference in a United States population-based survey of
homosexual, bisexual, and heterosexual adults. Child Abuse Negl. 2002;26:1165–78,
http://dx.doi.org/10.1006/cutn.2002.0985.
5. Drescher J, Byne W. Gender dysphoric/gender variant (GD/GV) children and ado-
clescents: how to tell the difference in a United States population-based survey of
homosexual, bisexual, and heterosexual adults. Child Abuse Negl. 2002;26:1165–78,
http://dx.doi.org/10.1006/cutn.2002.0985.
6. de Vries AC, Cohen-Kettenis PT. Psychosocial outcomes of gender-
http://dx.doi.org/10.1097/JCH.0b013e31818956b9.
7. Cohen-Kettenis PT, Delemarre-van de Waal HA, Gooren LJG. The treatment
of adolescents with gender dysphoria and disorders of sex development: progress in
171–92.
9. Di Ceglie D. Engaging young people with atypical gender identity develop-
associated with desistence and persistence of childhood gender dys-
12. de Vries AC, Cohen-Kettenis PT. Clinical management of gender dysphoria in
http://dx.doi.org/10.1080/00918369.2011.611219.
Clinical topics in child and adolescent psychiatry. London: The Royal College of
Psychiatrists; 2014. p. 349–64.
14. Drescher J, Byne W. Gender dysphoric/gender variant (GD/GV) children and ado-
clescents: how to tell the difference in a United States population-based survey of
homosexual, bisexual, and heterosexual adults. Child Abuse Negl. 2002;26:1165–78,
http://dx.doi.org/10.1006/cutn.2002.0985.
15. Drescher J, Byne W. Gender dysphoric/gender variant (GD/GV) children and ado-
clescents: how to tell the difference in a United States population-based survey of
homosexual, bisexual, and heterosexual adults. Child Abuse Negl. 2002;26:1165–78,
http://dx.doi.org/10.1006/cutn.2002.0985.
16. de Vries AC, Cohen-Kettenis PT. Treatment of adolescents with gender dysphoria
http://dx.doi.org/10.1016/j.chpc.2011.08.001.
17. Di Ceglie D. Engaging young people with atypical gender identity develop-
18. Ristori J, Steensma TD, Doreleijers TA, Cohen-Kettenis PT. Puberty suppression in
20. Festa RJ, Rider GN, Haag NA, Balsam KF. Gender confirming medical interven-
tions and eating disorder symptoms among transgender individuals. Health Psychol.


