

Side effects related to GnRH analogues and Cross-Sex Hormonal therapy in Transgender Youth

Mora Palma C¹, Guerrero Fernández J¹, Itza Martín N¹, Ortiz Villalobos A², Barreda Bonis AC¹, Salamanca Fresno L¹, González Casado I¹.

1 Pediatric Endocrinology Department. University Hospital La Paz, Madrid, Spain. 2 Psychiatry Pediatric Department. University Hospital La Paz, Madrid, Spain.



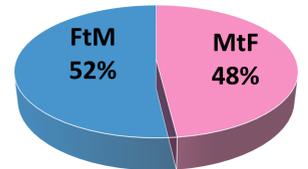
INTRODUCTION and OBJETIVES

- Transsexuality during childhood/adolescence is a complex condition usually ending in dysphoria (GD).
- The **prevalence** of transgenderism is increasing in Pediatrics.
- In the process of sexual reassignment, a correct pharmacological treatment and the knowledge of possible consequences are necessary.
- The **objective** of this study is to present the evolution of the physical and analytical characteristics and side effects in Transgender children and youth with pubertal blockade (PB) and/or cross-sex hormone (CSH) therapy .

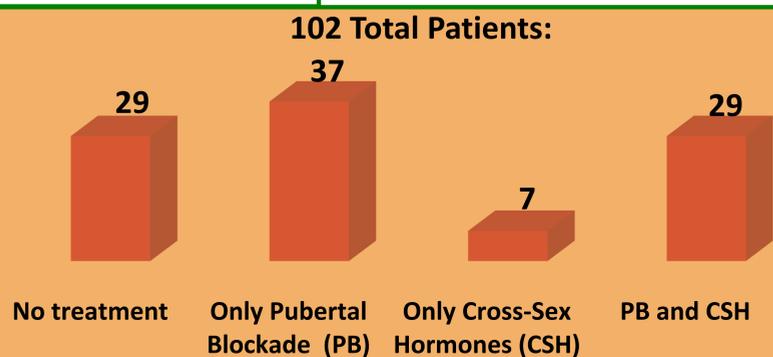
METHODS

- **102 patients** (age ranged from 5.8 to 16.1 years) with GD are followed in the Endocrinology Unit of a tertiary hospital during **3.1 years**.
- The 52% (n=53) are biological women (female to male -FtM- group) and the 48% (n=49) are biological men (male to female -MtF- group).

Distribution



RESULTS



- GD is present from early childhood in 85% and persists in all patients nowadays.

Cross-sex Hormone therapy

- 36 patients receiving cross-sex hormone treatment (29 associated to CSH).
- The **ONSET OF TREATMENT** ranges from 14.8 to 16.4 years (19 cases FtM, 17 cases MtF).
- **TREATMENT REGIME:**
 - **In MtF:** 17β-Estradiol (oral / transdermal) associated to PB.
 - **In FtM:** Testosterone Cypionate (intramuscular/ subcutaneous) associated to PB only during the first year.

Cross-Sex Hormone therapy ADVERSE EVENTS	Patients (%)
Mood changes	40%
Weight gain	30%
Hematocrit increased (in FtM)	29%
Headache	28%
Dizziness	7%
Higher total cholesterol (in FtM)	4%
Insomnia	4%
Liver dysfunction, thromboembolic events	0

Pubertal Blockade therapy

- 66 patients are treated with GnRH analogues (29 associated to CSH).
- The **ONSET OF TREATMENT** ranges from 9.8 to 16.3 years.
- **TREATMENT REGIME:** GnRH AGONISTS (monthly/ quarterly), observing LH <0.5 mUI/ml at 3 months after the start of treatment.
- **MtF:**
 - **Penile erections** stopped in all MtF after the first dose.
 - The **testicular volume** decreased since the 3rd/6th month in the 75% of the patients MtF.
- **FtM:**
 - The **menstruation** disappeared in the FtM with monthly preparation after the first dose, if the preparation was quarterly they presented one or two menstrual cycles.

Pubertal Blockade therapy ADVERSE EVENTS	Patients (%)
Weight gain	25%
Hot flushes	13%
Headache	10%
Depression	5%
Growth rate decreased	4,90%
Bone Mineral Density decreased	0
Hypertension	0

CHANGES OBSERVED IN THE PHYSICAL EXAMINATION (patients with Cross-Sex Hormone therapy):

	Voice	Body hair	Facial hair	Skin	Acne	Body composition	Clitoris size	Penile size
FtM	Deeper voice since the 3 rd /6 th month (progressively)	It increases in legs since the 3 rd month	Moustache appears since the 3 rd month. The rest of facial hair appears progressively	Oily skin since the 3 rd /6 th month	Not severe. Mild acne in the back and the face	The musculature increases since the 6 th /9 th month (anaerobic activity is necessary)	It is progressively increasing (depending on the testosterone levels)	
MtF	No change	It decreases in arms and legs since the 3 rd month	It decreases since the 3 rd month	Softer skin since the 3 rd month	Improvement	The hip size increases since the 6 th month		No modifications

CONCLUSIONS

- GD management should be **multidisciplinary**, requiring a **correct diagnosis of GD** by mental health specialist and it is necessary the application of standardized therapeutic protocols.
- **Pharmacological treatment** in transsexual subjects involves anthropometric, physical and metabolic changes; long-term studies are needed in Pediatrics.

REFERENCES/ BIBLIOGRAPHY

Hembree WC, Cohen-Kettenis PT, Gooren L, Hannema SE, Meyer WJ, Murad MH, et al. Endocrine Treatment of Gender-Dysphoric/Gender-Incongruent Persons: An Endocrine Society Clinical Practice Guideline. J Clin Endocrinol Metab. 2017;102(11):1–35. 7. Daniel E. Shumer, Natalie J. Nokoff, Norman P. Spack. Advances in the care of Transgender Children and Adolescents. Advances in Pediatrics 63 (2016) 79–102. Norman P. Spack Management of Transgenderism JAMA; 2013 Feb.309 (5). Stevens J, Gomez-Lobo V, Pine-Twaddell, E. Insurance Coverage of Puberty Blocker Therapies for Transgender Youth. Pediatrics; 2015: 136 (6). PT Cohen-Kettenis, D Klink. Adolescents with gender dysphoria. Best Practice & Research Clinical Endocrinology & Metabolism. 2015; 29: 485-495.

