Effects and Side Effects of Cyproterone Acetate alone and in combination with estrogens in male to female transgender adolescents

Tack L (1), Craen M (1), Dhondt K (2), Vanden Bossche H (3), Laridaen J (3) and Cools M (1)

Department of Pediatrics, Division of Pediatric Endocrinology, Ghent University Hospital and Department of Pediatrics and Genetics, Ghent University, Ghent, Belgium (1); Department of Pediatrics, Division of Pediatric Neurology and Metabolism, Ghent University Hospital, Ghent, Belgium (2); Department of Pediatrics, Division of Child Psychology, Ghent University Hospital, Ghent, Belgium (3)

Background

Worldwide the amount of people presenting with distress because their birth sex is incongruent with the gender they experience or express is increasing. Presentation of gender dysphoria during childhood and adolescence is also increasing, whereas to date, treatment options for this age group remain limited.

When diagnosed early in puberty, gonadotropin releasing hormone analogues (GnRHa) are generally offered for full suppression of gonadotropins and secondary sexual characteristics from puberty onwards.

When the diagnosis is made during mid- or late puberty, anti-androgenic progesterins can be offered in transgirls to weaken the effects of endogenous hormones, e.g. suppress virilisation, libido... 

Aim and Methods

Aim: To examine the effects of Cyproterone Acetate in monotherapy (CA) and in combination with Estrogens (CA+E) on antropometry, safety parameters and hormone levels in male to female late pubertal transgender adolescents.

Methods: Retrospective analysis of clinical and biochemical data in 27 male to female transgender adolescents, treated with CA and CA+E at the gender clinic of Ghent University Hospital. In all cases, treatment was started at Tanner stage 4 or later.

Disclosure: The authors report no conflicts of interest.

Results

Mean treatment duration:
CA: 11 months; CA+E: 12 months

Antropometrics
Height start CA: 174.6 cm, Height start CA+E: 175.6 cm

Side effects

<table>
<thead>
<tr>
<th>Side effect</th>
<th>CA</th>
<th>CA+E</th>
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<tbody>
<tr>
<td>Breast tenderness</td>
<td>2/25 (8%)</td>
<td>8/17 (47,1%)</td>
</tr>
<tr>
<td>Emotionality</td>
<td>2/25 (8%)</td>
<td>4/17 (23,5%)</td>
</tr>
<tr>
<td>Hunger</td>
<td>0/25 (0%)</td>
<td>4/17 (23,5%)</td>
</tr>
<tr>
<td>Fatigue</td>
<td>8/25 (32%)</td>
<td>2/17 (11,8%)</td>
</tr>
<tr>
<td>Flushed</td>
<td>1/25 (4%)</td>
<td>2/17 (11,8%)</td>
</tr>
</tbody>
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Hormones

Biochemical

Conclusions

CA seems to be safe and effective in reducing effects of endogenous sex steroids. Compared to GnRHa, androgen levels and gonadotropins are not fully suppressed. Therefore, CA can most likely not prevent the development of secondary sexual characteristics during early puberty. However, limited breast development was noticed in some adolescents, indicating bodily changes towards the desired sex. Overall, CA seems specifically indicated in trans girls with already advanced pubertal development, especially in a setting where GnRHa are not reimbursed and while awaiting eligibility for CSH treatment.