ADEQUACY OF SUPPRESSION OF GONADOTROPINS TESTOSTERONE AND OESTRADIOL BY GONADOTROPIN RELEASING HORMONE ANALOGUE (GnRHa) TREATMENT IN ADOLESCENTS WITH GENDER DYSPHORIA

Gary Butler, Francis Lam, Rachel Besser, Claire Goedhart, Caroline Brain
Endocrinology and Clinical Biochemistry University College London Hospital
UK Gender Identity Development Service, Tavistock Centre London

Objectives:

To ascertain how effective the GnRH analogue (blocker) is in suppressing pubertal hormones in adolescents with GD

Methods:

National UK Gender Identity Development Service Joint endocrine clinic UCLH, adolescents 15-18 yr

- 74 adolescents with GD ages 15-18y. Late/post-pubertal
- 25 natal males, 49 natal females
- Excluded if on any other hormone treatment
- Measured serum LH, FSH, testosterone, oestradiol pre- and during treatment
- Gonapeptyl (triptorelin) 3.75mg i.m. every 28 days
- 6 monthly reviews
- *Results as median = 7m & interquartile range = 6-8m*

Significant symptoms requiring treatment change

- Hot flushes
- Lethargy
- Mood changes:
  - *Irritability*
  - *Anxiety*
  - *Depression*

If symptoms bad enough for treatment change, adjustments included:

- GnRHa frequency increased
- Sex hormone add-back usually low dose oral or transdermal oestradiol

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Results:

Natal males		LH U/l			FSH U/l			T nmol/l			E2 pmol/l		
	Post	Pre	% Decrease	Post	Pre	% Decrease	Post	Pre	% Decrease	Post	Pre	% Decrease
-	0.6	5.4	**83**	1	5	**54**	1	15	**94**	46	90	**45**
+	1.2	3.8	**66**	1	4	**60**	2	14	**88**	44	89	**35**

Natal females	LH u/l			FSH u/l			T nmol/l			E2 pmol/l		
	Post	Pre	% Decrease	Post	Pre	% Decrease	Post	Pre	% Decrease	Post	Pre	% Decrease
-	0.5	7.6	**-1**	3	5	**-128**	1	1	**22**	59	292	**62**
+	0.6	6.9	**-57**	4	6	**-44**	1	1	**34**	60	157	**56**

Gonapeptyl treatment:

Significantly suppressed serum LH, FSH, testosterone and oestradiol concentrations, but

- LH: detectable in 91% of patients
- FSH: detectable in 100% of patients
- Testosterone: detectable in 79% of patients
- Oestradiol: detectable in 23% of patients

No correlation of suppression by age
No correlation of response to treatment with body surface area or weight
No correlation with presence of symptoms or not (present **+** or absent **–** in tables above)

Conclusions:

Standard dose GnRHa may not cause complete suppression of the HPG axis and may need adjusting - although principally on clinical grounds

Considerations:

- Monitoring not at same stage of treatment cycle
- Circadian rhythms not accounted for (but were mid-afternoon blood samples)
- Testosterone may be of adrenal origin – does that matter?
- **Do we need to aim for full hormone suppression?**

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