



TO PREDICT OVARIAN FUNCTION IS A SINGLE DETERMINATION OF AMH USEFUL IN PATIENTS WITH TURNER SYNDROME?

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BACKGROUND

Different studies have underlined the role of anti-Müllerian hormone (AMH) and inhibin B as markers of the ovarian function in pediatric and adolescent patients with Turner syndrome (TS).

AIMS AND OBJECTIVES

Our study aims to verify the role of AMH in a cohort of patients affected by TS.

METHODS

We analyzed 23 TS patients, aged 2-34 years, describing their auxological parameters and the pubertal development, and evaluating their hormonal (AMH, FSH, LH, estradiol and inhibin B) levels.

RESULTS

Auxological, pubertal and biochemical features of our patients are shown in *table 1* and *2*.

Twenty-one out of 23 (91.3%) were treated with growth hormone (GH). AMH resulted measurable only in 2 patients of 23 (8.7%), whereas inhibin B was measurable in 13 of 23 (56.5%) patients.

Our results were highly heterogeneous. In particular, there are predictive factors neither for the response to GH treatment nor by the puberty. In fact, a good response of GH treatment both as final height and in relation to Δ TH (final height- mid-parental height) was independent from karyotype, from hormonal levels and from spontaneous puberty development. In addition, a karyotype 45X was not predictive of worst height gain or of not spontaneous pubertal development.

Auxological data:	Values	Range
Birth weight (g)	2510.5 ± 793.0	940.0 - 3500.0
Birth length (cm)	46.8 ± 5.7	35.0 - 52.0
MPH (SDS)	-0.01 ± 0.90	-1.47 - 1.78
Age at diagnosis (years)	5.1 ± 5.3	0 - 15.6
Height before GH treatment (SDS)	-2.59 ± 0.97	-3.78 - -1.05
Age at begin of GH treatment (years)	7.7 ± 3.9	2.5 - 15.9
Δ height in 1 year of GH treatment (SDS)	0.64 ± 0.39	0.04 - 1.17
Duration of GH treatment	8.3 ± 3.8	3.5 - 13.5
Age at the end of GH treatment (years) (13/23)	16.0 ± 0.8	13.8 - 16.9
Final height (SDS) (13/23)	-1.46 ± 1.42	-4.11 - 1.25
Δ height during GH treatment (SDS) (13/23)	1.26 ± 0.87	0.10 - 3.06
Δ TH (SDS) (13/23)	-1.01 ± 1.32	-2.34 - 2.04

Pubertal data:	Values	Range
Spontaneously telarche	41.2%	
Age of telarche (16/23)	13.7 ± 1.4	10.8 - 16.0
Spontaneously menarche	14.2%	
Age of menarche (8/23)	14.5 ± 1.0	12.6 - 16.0
presence of ovaries on ultrasound	50%	
Biochemical data:		
FSH (U/L)	59.8 ± 67.1	3.6 - 229.0
LH (U/L)	12.3 ± 12.6	0.1 - 43.4
Estradiol (pg/mL)	43.9 ± 40.5	10.0 - 169.0
AMH (ng/mL)	/	0.7 - 1.3
Inhibin B	6.1 ± 17.4	0.7 - 78.3

CONCLUSIONS

There is not a predictive factor that allows to know in advance the evolution of puberty in patients with TS. A single determination of AMH is not informative; only repeated evaluations of this ovarian marker in childhood and adolescence may be useful to predict a spontaneous beginning of puberty and to suggest a possible fertility.