PANHYPOPITUITARISM WITH TALL STATURE DIAGNOSED IN A 20 YEARS OLD BOY

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Introduction

Growth hormone plays a primary role in stimulating postnatal growth by way of insulin-like growth factor 1 (IGF1) . A deficiency of GH delays maturation during childhood, and the stature of such subjects is generally much shorter than the average stature. However, some cases of GH deficiency attain normal stature as adults.

Case Report

A 20 years old man was referred for a further evaluation of hypogonadism.
He was born with 36 weeks of gestational age and birth weight of 4 kg. He had regular school performance. During his childhood, although he had a normal stature for his age, he was short for his target height. Despites this, he subsequently continued growing and attained the stature of 186,5 cm by age 21.

Physical examination showed height 183,5 cm (+1,57 SD), Weight 101 Kg (+3,39 SDS), BMI 29.9 kg/m2, arm span 190 cm. He had central obesity, prognatism and his Tanner stage was PH1G1, with prepubertal testicles (Vol 2cc). (Fig. 1,2)
His target height was 182,5 cm (+1,42 SDS)

Magnetic resonance scanning of the brain showed a small anterior pituitary and an ectopic neurohypophysis. (Fig 3)
He had a normal karyotype and a normal chromosomal microarray analysis. Her bone age was 14 years.

Lab workout, including dynamic tests showed hormone levels consistent with a severe multiple pituitary deficiency, including severe growth hormone deficiency. TABLES 1,2,3. Vitamine D deficiency and dyslipidemia was also present.

Table 1- Basal hormonal levels

fT4 (ng/dl) NV 0.7-1.4	Cortisol (ug/dl) NV 6.2-19	FSH (mIU/ml) NV 1.3-13.5	LH (mIU/ml) NV 1.1-8.7	Testost (ng/ml) NV 1.4-9.2	IGF1 (ng/ml) NV 141-424
0.6	1.2	<0.5	<0.5	0.2	<12

Table 2- TRH Test

	Basal	30’	60’	90’	120’
TSH (uIU/ml)	5.4	37.8	38	31	23
PRL (ng/ml)	21,67	72	52.42	37.6	29.06

Table 3- GnRH Test

	Basal	30’	60’	90’	120’
FSH(mUI/ml)	1.05	1.98	2.42	2.56	2.53
LH (mUI/ml)	<0.5	1.15	1.43	1.22	1.15

Table 4- Glucagon Test

	Basal	30’	60’	90’	120’	180’
GH (ng/ml)	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1

Fig 1

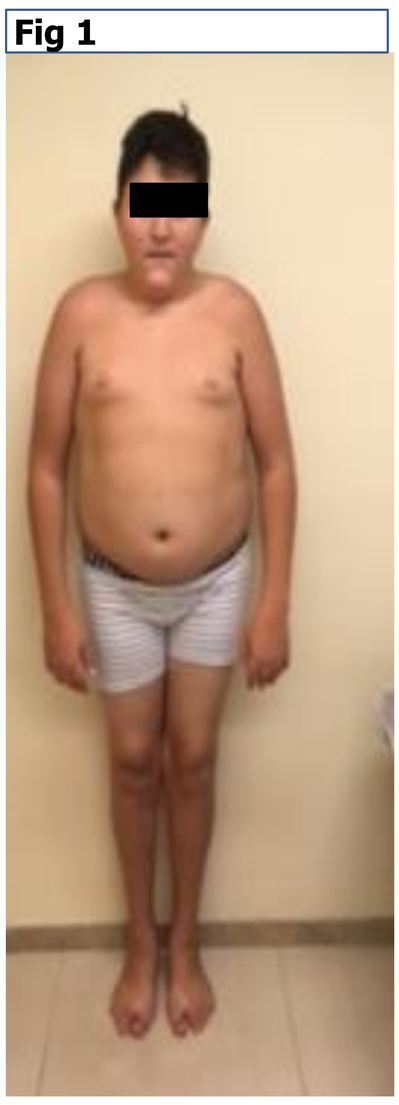


Fig 2- Argentinian National growth chart

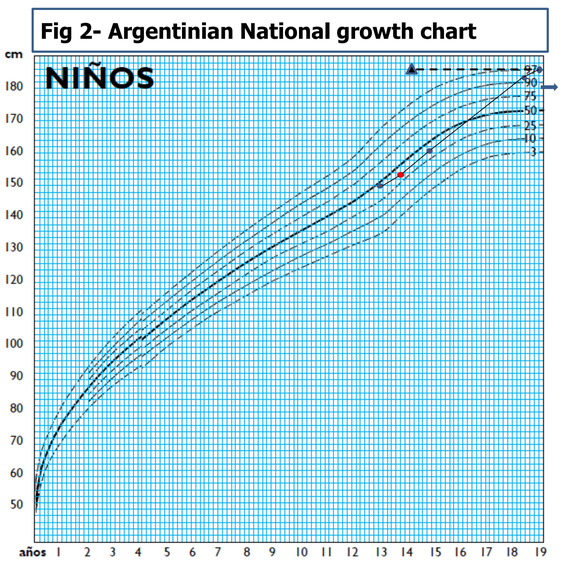
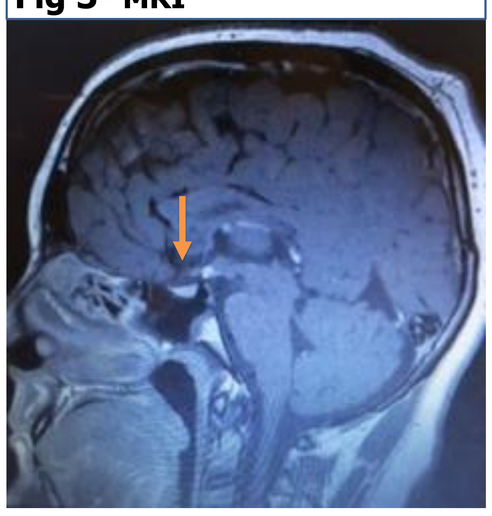


Fig 3- MRI



Treatment with levothyroxine, hydrocortisone and sex steroids was started.
Currently he is 21 years old, his height is 186.5 cm, his BMI is 29 and his Tanner stage is P4G4.

Conclusions

This is the natural history of a patient with panhypopituitarism, who attained tall stature despite growth hormone deficiency.
It is most likely that potent growth-promoting factors, other than GH and IGF1 may have played a role in stimulating growth.