ANTERIOR PITUITARY INSUFFICIENCY AND SPONTANEOUS FERTILITY – CASE REPORT

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INTRODUCTION

- The reversibility of idiopathic hypogonadotropic hypogonadism (IHH) is well documented and may result in spontaneous fertility (SF) in 10% of the cases.
- These facts are little discussed in anterior pituitary insufficiency.
- We describe a case report of this disease with SF after androgen therapy withdrawal.

CASE REPORT

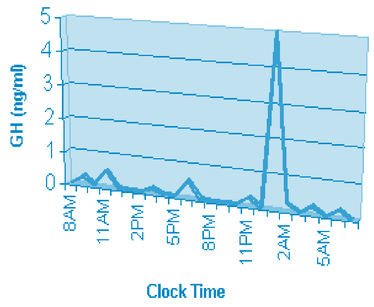
➥ **Referenced due to Short stature.**

➥ **Identification:**
PJON, ♂, DB 22.03.1981
Age: 7,63 years-old

➥ **Auxology:**
Height 108 cm *(-2,86 SD)*
Predicted Adult Stature (PAS) 169.5 cm *(-0.78 SD)*
Bone age 6 years *(-2,82 SD)*
Growth velocity 2 cm

➥ **Past history** of traumatic delivery; irrelevant familial history.

➥ **Cranial CT:** intrasellar arachnoidocele.



Daytime mean 0,2±0,28 ng/mL *(max 1 ng/mL)*
Night mean 0,46 ±0,48 ng/ML *(max 1,7 ng/mL)*

Insulinic hypoglic. (max) 0,2 ng/mL
IGF1 0,3 U/mL *(0.22-2.8)*

➥**TSH deficiency**

➥**ACTH parcial insufficiency**

Set/1990
9 y and 6m
Starts GH 12 U/weekly
L-T4 100 µg/day

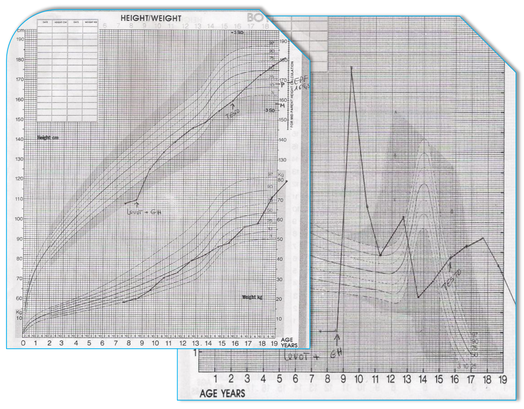
Oct/1993
12 y and 7 m
GH 20 U/weekly
L-T4 100 µg/day
Tanner P1 G2
Testicular volume (TV) 6 mL

Jul/1996
15 y
GH 28 U/weekly
L-T4 125 µg/day
Tanner P1 G2 ;TV 6 mL

Oct/ 1996
15 y and 7 m
GH 28 U/weekly
L-T4 125 µg/day
Absence of sexual hair
Tanner P1 G2; VT 6 mL

PUBERTY INDUCTION with progressive doses of testosterone enanthate

Jan/2001
19 years e 7 m
STOPS SOMATROPIN
Height 180,9 cm (0,93 SDS) – exceeded PAS
Tanner P2 G4, VT 10-15 mL
R:\ Levothyroxine 125 µg/day
Testost.enant. 250 mg 3/3 weeks
Hidrocortisone 20 mg SOS



REASSESSMENT AFTER SOMATROPIN WITHDRAWAL:

IGF-1 85ng/mL (116-358), displaying **persistence of GH deficit**.
Cranial MRI: pituitary hypoplasia, thin stalk and ectopic neurohypophysis;
Negative PROP1 mutation.

Jan/2011
29 y
STOPS TESTOSTERONE ENANTHATE with intention to become a father

FSH	**1.8 mUI/mL (<15)**
LH	**3.3 mUI/mL (<9.0)**
Total testosterone	**1.7 ng/mL (2.7-11.0)**
TSH	1.1uUI/mL (0.4-4.0)
FT4	1.0 ng/dL (0.8-1.9)
ACTH	30 pg/mL(9-52)
Cortisol	5.8 ug/dL (5-25)
Spermogram	**Asthenozoospermia**

May/2011
30 y
SPONTANEOUS FERTILITY

Sept/2011
30 y
Erectile disfuntion, decreased libido and fatigue.

FSH	**2.8 mUI/mL (<15)**
LH	**2.0 mUI/mL (<9.0)**
Total testosterone	**1.3 ng/mL (2.7-11.0)**

He restarted testosterone enanthate

Dec/2011
30 y
His child was born.

2014
32 y
He's clinically stable;
Father of a 2-years-old child, with normal psychomotor development.

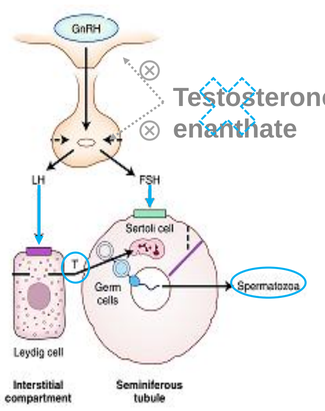
DISCUSSION

- **Reversibility of hypogonadism and spontaneous fertility** (SF) chance should be considered in all patients **with IHH and anterior pituitary insufficiency.**

- If the patient desires to become a father, testosterone should be suspended, and endocrinological reassessment and spermogram should be done. Reversibility of the hypogonadism and/or SF can be observed; if it doesn't it should be performed fertility induction.

- It is known that the *patients who will probably present SF* are those with ***post-puberty hypogonadism***; ***partial hypogonadism*** – TSH, LH, inhibin B and testosterone not very low; ***absence of cryptorchidism***; and ***previous treatment with gonadotropins***.

- In this case, we admit that **testosterone enanthate withdrawal has contributed to a partial reactivation of the hypothalamic-pituitary-gonadal axis, sufficient to stimulate spermatogenesis**. A TV of 6 mL at age of 12 (and 10-15 mL after puberty induction) can be a predictor of greater chances of SF (it indicates some endogenous gonadotropin production).



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