INTRODUCTION
PROP1 (Prophet of POU1F1) mutations are the most frequent genetic cause of combined anterior pituitary hormone deficiency. The PROP1 gene encodes a transcription factor of synthesis: somatotrophs, lactotrophs, thyreotrops and gonadothrops. These mutations are characterized by great clinical variability, including time of onset of hormonal deficiencies, hypophysical dimensions and secretion of cortisol.

OBJECTIVE
Referral of children with growth hormone deficiency (GHD) is beside all checkpoints during childhood rather late. High genetic potential and living in countryside could be additional difficulties for GHD and additional hormone deficiencies detection.

METHODS
We present brother and sister admitted for tests; boy’s (age 16 y 3/12) Dg: Delayed puberty girl’s (age 12 y 11/12) Dg: Short stature and Obesity.

Final height for both was according genetic potential (GP) at p90. Boy’s height was on p5, BMI 28,3 (p95), volume of both testis were 1,5 ml (Prader), without secondary sexual characteristics, -5 to -7 SD delayed bone maturation, MRI scan of pituitary-enlarged.

Girl was 29 cm smaller than GP height (p 90), obese: BMI 27,2 (p95). Laboratory tests for both showed central hypothyreosis, GHD, low gonadotropins and low prolactine. Later done cortisol and ACTH were low (Synachen test) in both. Girl’s bone age was -2 to -3 SD, without secondary sexual characteristics, regular size of pituitary gland with contrast opacifications.

RESULTS
The genetic study was performed by polymerase chain reaction confirmed homozygous mutation in the PROP1 gene with a 2-bp deletion (c.301–302delAG). At the age of 18 years boy’s height was on p75 with BMI 24,4, developed male secondary sex characteristics (monthly substitution), and girl’s height was on p90, BMI 28, sexual development completed, regular periods. Both had continuous substitution with thyroid hormones, hydrocortisone, and metformin treatment.

CONCLUSION
Although first referral of brother and sister with combined pituitary hormone deficiency (PROP1) was very late they gained height almost near GP, they stayed no to moderately obese and gained normal secondary sexual characteristics with continuous thyroid and suprarenal substitution.