

Table 1. Patients' clinical characteristics (present and at birth)

Patient	Gender	Age, years (present)	Endocrine diagnosis	Other diagnosis	Delivery at birth	Birth weight in kg (SDS; centile) ^c	Birth age (weeks+days)
1	F	16.0	SOD; GH, ACTH, TSH deficiencies, DI, obesity	Visual impairment, autistic spectrum disorder, learning difficulties, scoliosis	normal	3.35 (+1.58; 94 th)	36w
2	M	10.9	SOD; GHD, bilateral undescended testes	Visual impairment	normal	3.02 (-0.11; 46 th)	37w+4d
3	F	14.5	SOD; GHD	Visual impairment, schizencephaly, learning disability	normal	3.91 (+0.93; 82 th)	40w
4	M	17.8	SOD; GH, ACTH, TSH deficiencies, DI, obesity	Severe visual impairment, arachnoid cyst, facial palsy	N/A	N/A	N/A
5	M	12.0	SOD; GHD, bilateral undescended testes	Visual impairment, hypertension, glomerulosclerosis	C-section	1.93 (-1.33; 9 th)	35w
6	F	16.2	SOD; GHD	Visual impairment, von Willebrand's disease	normal	3.00 (-0.11; 46 th)	38w
7 ^a	M	16.4	SOD; GHD, bilateral undescended testes, spontaneous puberty	Visual impairment, learning difficulties, small for gestational age	C-section	1.22 (-3.04; 0 th)	35w
8 ^a	M	16.1	SOD; GH, ACTH, TSH, LH/FSH deficiencies	-	normal	3.47 (-0.66; 25 th)	41w
9	F	9.5	Ectopic PP; APH; GH, ACTH, TSH deficiencies	Bilateral genu varum	normal	3.70 (+0.55; 71 th)	40w
10 ^a	M	4.0	Ectopic PP; APH; GH, ACTH, TSH deficiencies, undescended testes micropenis	Arthrogryposis multiplex congenital, mild developmental delay, left femur fracture	C-section	2.58 (-1.32; 9 th)	38w+6d
11	M	24.3	Ectopic PP; GH, ACTH, TSH, LH/FSH deficiencies	-	normal	N/A	39w
12 ^b	M	6.0	SOD, ectopic PP; GHD	Delayed motor development	C-section	3.03 (+0.26; 60 th)	36w+6d
13	M	22.9	SOD; GHD	-	N/A	3.35	N/A

APH: anterior pituitary hypoplasia; DI: Diabetes insipidus; F: female; GHD: Growth hormone deficiency; M: male; N/A: not available; PP: posterior pituitary; SOD: septo-optic dysplasia. ^aconsanguineous parents. ^bmonozygotic dichorionic twin. ^cFenton TR and Kim JH. BMC Pediatr. 2013;13:59.

Table 2. Hip dysplasia and rhGH replacement therapy

Patient	Gender	Orthopedic diagnosis	Orthopedic surgery	Age at start of rhGH treatment (years)	Peak GH to glucagon ($\mu\text{g/L}$)	Basal IGF-I [ng/mL (reference value adjusted for sex and age)]	rhGH dose range (mcg/kg/day)	BMI range (z-score)	Age of diagnosis of hip disorder (years)	Δt (years)	Total duration of rhGH (years)
1	F	Left DY	Not planned	3.5	N/A	Low	5.9-7.9	2.1 to 2.3	4.7	+1.2	13.1
2	M	Left DIS then bilateral	Yes	1.4	11.1 ^b	Below -3 SD	23.1-32.5	1.2 to 1.4	0.9	-0.5	10.3
3	F	Left S; Right DIS	Yes	13.2	1.1	Low	17.7-18.6	-2.2 to -1.7	3.0	-10.2	2.0
4	M	Left DY	No, but planned	1.9	N/A	N/A	13.8-15.9	2.6 to 4.7	4.7	+2.8	16.6
5	M	Bilateral S	Not planned	7.9	4.5	29 (64-345)	18.5-29.4	-1.8 to -1.4	2.8	-5.1	4.7
6	F	Right DIS	Not planned	8.9	7.8 ^c	85 (74-388)	25.5-34.0	-1.8 to -1.3	13.5	+4.6	5.9
7	M	Bilateral DY	Yes	8.8	12.1 ^d	N/A	27.7-41.1	-2.7 to -0.6	6.5	-2.3	7.2
8	M	Bilateral DY	Yes	2.5	2.8	7 (8-141)	10.6-27.2	0.1 to 1.4	7.5	+5.0	14.3
9	F	Bilateral DY	Not planned	2.3	1.7	<25 (55-327)	29.4-55.8 ^a	-0.4 to 1.7	5.9	+3.6	7.5
10	M	Left DIS	No	1.4	2.9	11 (48-283)	33.7-66.7	-1.8 to -1.2	0.3	-1.1	3.0

DIS: dislocation; DY: acetabular dysplasia (without subluxation); F: female; M: male; rhGH: recombinant human growth hormone; S: subluxated hip(s) with associated acetabular dysplasia; SD: standard deviation. Δt : age at onset of the hip disorder - age rhGH was started. ^arhGH application: five times a week. ^blow IGF-I of 28ng/mL (normal 51-303) and reduced growth velocity (drifting below 0.4th centile). ^cborderline low IGF-I of 85ng/mL (normal 74-388) and reduced growth velocity. ^drhGH start for small for gestational age.

Table 3. Legg-Calvé-Perthes disease and rhGH replacement therapy

Patient	Gender	Orthopedic diagnosis	Orthopaedic surgery	Age rhGH was started (years)	Peak GH to glucagon ($\mu\text{g/L}$)	Basal IGF-I [ng/mL (reference value adjusted for sex and age)]	rhGH dose range (mcg/kg/day)	BMI range (z-score)	Age of diagnosis of hip disorder (years)	Δt (years)	Total duration of rhGH (years)
11	M	Right LCPD	Yes	10.3	3.6	Low	16.9-29.2	0.9 to 1.3	15.4	+5.1	14.6
12	M	Left LCPD	Yes	4.0	2.3	Low	21.7-33.1	-0.6 to 0.3	3.0	-1.0	2.6
13	M	Left LCPD	Yes	14.6	N/A	N/A	N/A	N/A	18.0	+3.4	3.4

LCPD: Legg-Calvé-Perthes disease; M: male. Δt : age at onset of the hip disorder - age rhGH was started.