Growth Hormone Treatment of Children after Intrauterine Growth Retardation (IUGR-1 study).

No registrations found.

Ethical review	Positive opinion
Status	Recruitment stopped
Health condition type	-
Study type	Interventional

Summary

ID

NL-OMON26748

Source
Nationaal Trial Register

Brief title
IUGR-1 study

Health condition

1. Small for gestational age (SGA);

2. Intrauterine growth retardation (IUGR).

Sponsors and support

Primary sponsor: Novo Nordisk A/S, Denmark
Source(s) of monetary or material Support: Novo Nordisk A/S, Denmark

Intervention

Outcome measures

Primary outcome

1. To assess the effect of GH therapy on:

a. linear growth;

b. bone maturation;

c. pubertal development;

d. final height;

in children with IUGR and no catch-up growth.

Secondary outcome

1. To assess the relation between 24-hour plasma GH profiles and the effect of GH therapy with two doses of GH;

2. To assess the additional affects of GH therapy on glucose and lipid metabolism, blood pressure, procollagen-I and III, plasma IGF-I and IGF-binding protein 3 (IGFBP-3);

3. Psychosocial functioning;

4. Intelligence.

Study description

Background summary

Multicentred, double-blind, randomized, two-arm trial comparing two dose regimens of Norditropin® (a 2-year initial trial 14/NL and the trial extensions 20/NL (2-years) and 21/NL (till final height). In trial 14/NL, children were randomized to receive GH at either 3 IU (~1mg)/m2/day or 6 IU (~2mg)/m2/day for a 2-year treatment period. The children were stratified by age (3.00-5.99 years; 6.00-8.99 years; 9.00-10.99 years) and by their plasma 24-hour GH profile (normal GH insufficient, unknown).

Subjects who completed this trial continued in the trial extension 20/NL, and continued treatment, without interruption, in double-blind fashion at the dose level at which they were originally randomised.

Eleven older children who did not meet the criteria on age and puberty were included in a separate protocol. These children were treated according to protocol addendum GHRETARD/BPD/16/NL. Trial conduct in 16/NL was the same as that for 14/NL with the exception that all children received GH at 6 IU (~2mg)/m2/day. After two years of treatment,

these children were allowed to continue in trial extension 20/NL.

Study objective

GH treatment of short, small-for-gestational-age children has a beneficial effect on linear growth.

Study design

N/A

Intervention

Growth hormone treatment in either 3 or 6 IU (~1 or 2 mg)/m2/day (randomized double-blind dose-response trial).

Contacts

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Eligibility criteria

Inclusion criteria

1. Birth length
2. Uncomplicated neonatal period, defined as no signs of:

a. severe asphyxia (Apgar score <3 after 5 minutes);

b. complicated sepsis neonatorum;

c. long-term complicated respiratory ventilation (for instance, bronchopulmonary dysplasia or pneumothorax);

3. No catch-up growth defined as obtaining a height of >= P3 (Roede), within the first two years of life or at a later stage;

4. Height velocity (HV) (cm/year) for chronological age <= P50 (Tanner);

5. Chronological age at start of treatment: girls: 3.00 to 8.99 years; boys: 3.00 to 10.99 years;

6. Prepubertal signs as defined by Tanner stage 1 or testicular volume <4 ml;

7. Well documented growth data from birth up to two years and at least one year before start of treatment;

8. Written informed consent from child and/or parents/guardians.

Exclusion criteria

1. Any endocrine or metabolic disorder (such as diabetes mellitus, diabetes insipidus, hypothyroidism, or inborn errors of metabolism);

2. Disorders of the genito-urinary tract, cardio-pulmonary or gastro-intestinal tract, or nervous system, nutritional and/or vitamin deficiencies;

3. Chromocomal abnormalities or signs of a syndrome, except for Silver-Russel syndrome;

4. Chondrodysplasia;

5. Hydrocephalus;

6. Subjects with active malignant diseases or with increased risk of leukaemia;

7. Serious suspicion of psychosocial dwarfism (emotional deprivation);

8. Previous anabolic sex steroid or GH therapy.

Study design

Design

Study type:	Interventional
Intervention model:	Parallel
Allocation:	Randomized controlled trial
Masking:	Double blinded (masking used)
Control:	Active

Recruitment

NL

Recruitment status:	Recruitment stopped
Start date (anticipated):	24-10-1990
Enrollment:	90
Type:	Actual

Ethics review

Positive opinion

Date:	14-08-2007
Application type:	First submission

Study registrations

Followed up by the following (possibly more current) registration

No registrations found.

Other (possibly less up-to-date) registrations in this register

No registrations found.

In other registers

Register	ID
NTR-new	NL1008
NTR-old	NTR1037
Other	:
ISRCTN	ISRCTN wordt niet meer aangevraagd

Study results

Summary results

1. de Waal, W.J., Hokken-Koelega, A.C., Stijnen, T., de Muinck Keizer-Schrama, S.M. & Drop, S.L. (1994) Endogenous and stimulated GH secretion, urinary GH excretion, and plasma IGF-I and IGF-II levels in prepubertal children with short stature after intrauterine growth retardation. The Dutch Working Group on Growth Hormone. Clin Endocrinol (Oxf), 41, 621-630;
2. Sas, T., de Waal, W., Mulder, P., Houdijk, M., Jansen, M., Reeser, M. & Hokken-Koelega, A. (1999) Growth hormone treatment in children with short stature born small for gestational age: 5-year results of a randomized, double-blind, dose-response trial. J Clin Endocrinol Metab, 84, 3064-3070;
3. Sas, T., Mulder, P. & Hokken-Koelega, A. (2000) Body composition, blood pressure, and lipid metabolism before and during long-term growth hormone (GH) treatment in children with short stature born small for gestational age either with or without GH deficiency. J Clin Endocrinol Metab, 85, 3786-3792;
4. Sas, T.C., Gerver, W.J., De Bruin, R., Mulder, P.G., Cole, T.J., De Waal, W. & Hokken-Koelega, A.C. (2000) Body proportions during 6 years of GH treatment in children with short stature born small for gestational age participating in a randomised, double-blind, dose-response trial. Clin Endocrinol (Oxf), 53, 675-681;
5. Sas, T., Mulder, P., Aanstoot, H.J., Houdijk, M., Jansen, M., Reeser, M. & Hokken-Koelega, A. (2001) Carbohydrate metabolism during long-term growth hormone treatment in children with short stature born small for gestational age. Clin Endocrinol (Oxf), 54, 243-251;
6. van Pareren, Y., Mulder, P., Houdijk, M., Jansen, M., Reeser, M. & Hokken-Koelega, A. (2003) Effect of discontinuation of growth hormone treatment on risk factors for cardiovascular disease in adolescents born small for gestational age. J Clin Endocrinol Metab, 88, 347-353;
7. Van Pareren, Y., Mulder, P., Houdijk, M., Jansen, M., Reeser, M. & Hokken-Koelega, A. (2003) Adult height after long-term, continuous growth hormone (GH) treatment in short children born small for gestational age: results of a randomized, double-blind, dose-response GH trial. J Clin Endocrinol Metab, 88, 3584-3590;
8. van Pareren, Y.K., Duivenvoorden, H.J., Slijper, F.S., Koot, H.M. & Hokken-Koelega, A.C. (2004) Intelligence and psychosocial functioning during long-term growth hormone therapy in children born small for gestational age. J Clin Endocrinol Metab, 89, 5295-5302;
9. Bannink, E.M., van Pareren, Y.K., Theunissen, N.C., Raat, H., Mulder, P.G. & Hokken-Koelega, A.C. (2005) Quality of life in adolescents born small for gestational age: does growth

hormone make a difference? Horm Res, 64, 166-174;
10. Bannink, E.M., van Doorn, J., Mulder, P.G. & Hokken-Koelega, A.C. (2007) Free/Dissociable Insulin-Like Growth Factor (IGF)-I, Not Total IGF-I, Correlates with Growth Response during Growth Hormone Treatment in Children Born Small for Gestational Age. J Clin Endocrinol Metab, 92, 2992-3000.