Skeletal Dysplasia and GH-therapy:
Data on Final Height.

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**Background**

Skeletal Dysplasias (SD) are characterized by bone and cartilage tissues involvement and a severe impairment of linear growth and body proportions. GH doesn’t have an effective role in the pathogenesis of growth failure in skeletal dysplasias. Reports of the benefits of GH treatment are difficult to evaluate having few final height data in groups with and without GH deficit.

**Objectives**

Final Height (FH) and body proportions after long term GH-treatment in subjects with SD (confirmed at molecular analysis) and GHD.

**Methods**

We studied 24 pts at FH after 6.5±3 yrs of GH-therapy (25-30 μg/kg/day): 6 pts with achondroplasia (ACH), 4 with hypochondroplasia (HCH), 4 with pseudoachondroplasia (PSACH), 3 with spondylo-epiphysial dysplasia congenital (SEDC), 4 with spondylo-epi-metaphysial dysplasia (SEMD) and 3 with Leri-Weill dyschondrosteosis (LWD).

Anthropometric measurements are expressed as SDS of Prader standards and were detected at baseline (7.3±3.0 yrs) and at FH (16.3±1.6 yrs).

**Results**

At FH mean Height Gain vs pre-therapy height was positive in HCH (+0.2±1.1 SD), even lower than Hertel’s data.

LWD subjects showed a positive gain (+0.5±0.75 SD).

The height gain was related to treatment duration (T 5.592, P<0.0001) and Growth Velocity during 1st year of therapy (T 2.967, P 0.009).

At FH mean Sitting Height (SH) was significant lower vs pretherapy in ACH (-1±1.3 SD) and in HCH (-0.3±1.4 SD) subjects.

At FH mean Subischial Leg Lenght (SLL) was significantly higher vs pretherapy in SEMD (+1.8±1.8 SD), ACH (+0.9±1.8 SD), LWD (+0.7±1.9 SD) and in HCH (+0.5±1.4 SD) subjects.

**Conclusions**

GH therapy in HCH enhances mildly the FH and body proportion, in LWD enhances FH, in ACH only body proportions were improved. SEMD, SEDC and PSACH pts, also with GHD, should be excluded from the opportunity to receive treatment with GH.

**References**