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Mental and motor development before and during growth hormone treatment in infants and toddlers with Prader-Willi syndrome.

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Background. Prader-Willi Syndrome (PWS) is a neurogenetic disorder characterized by muscular hypotonia, psychomotor delay, feeding difficulties and failure to thrive in infancy. Growth hormone (GH) treatment will improve growth velocity and body composition. Research on the effects of GH on psychomotor development in infants with PWS is limited. Objective. To evaluate psychomotor development in PWS infants and toddlers during GH compared to randomized controls. Design/Patients. 43 PWS infants were evaluated at baseline. Twenty-nine of them were randomized into a GH-group (n=15) receiving 1 mg/m²/day GH-treatment or a non-GH-treated control group (n=14). At baseline and after 12 months of follow-up, Bayley Scales of Infant Development (BSID II) were performed. Data were converted to percentage of expected development for age (%ed), and changes during follow-up were calculated. Results. Infants in the GH-group had a median age of 2.3 years (interquartile range (iqr) 1.7 to 3.0) and in the control group of 1.5 years (iqr 1.2 to 2.7) (p=0.17). **Both mental and motor development significantly improved during the first year of study in the GH-group vs. the control group.** Median (iqr) change in mental development was +9.3% (-5.3 to 13.3) vs. -2.9% (-8.1 to 4.9), p<0.05, and in motor development was +11.2% (-4.9 to 22.5) vs. -18.5% (-27.9 to 1.8), p<0.05, respectively. Conclusion. **One year of GH-treatment significantly improved mental and motor development in PWS infants compared to randomized controls.**

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