



BENEFICIAL EFFECT OF EARLY USE OF GROWTH HORMONE IN PATIENTS WITH PRADER-WILLI SYNDROME

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INTRODUCTION: Growth hormone (GH) treatment for Prader-Willi syndrome (PWS) has been started worldwide, however, an ideal starting age of GH has not been identified. This study was designed to determine whether we should start GH before or after 2 years old.

METHODS: GH was started before 2 years of age in 11 patients in one group (8 males and 3 females, age ranged from 8 mo to 1 y 9 mo) and after 2 years in 11 patients in the other group (6 males and 5 females, age ranged from 3 y 6 mo to 11 y 7 mo). We compared GH effect for height SDS, %fat of body composition by dual energy X-ray absorptiometry (DEXA), and gross motor development between these 2 groups.

RESULTS: The gain of height SDS during the first year of treatment was 0.61 SDS and 0.55 SDS, respectively, showing no statistical difference ($p=0.57$). The %fat improved during the first year of treatment from 40.4 % to 24.0 % in the early starting group and from 37.0 % to 24.4 % in the other group and there was no statistical difference ($p=0.67$). Concerning gross motor developmental milestones such as head controlling, rolling over, and sitting up, the early starting group showed a definite delay compared to the other group. However the duration from attaining head control to sitting up showed no difference in 2 groups. (Table)

DISCUSSION: Our study showed that the early start of GH is not mandatory for improving height SDS and %fat. The reason for the delay of gross motor development in the early starting group is probably due to the fact that the early starting group was definitely more delayed in their development than the other group even before GH was started. The lack of difference in the duration from attaining head control to sitting indicates that GH therapy probably improved gross motor development. Early use of GH for PWS is beneficial for improving gross motor development.

	GH starting before 2 y/o (months)	GH starting after 2 y/o (months)	p
head control	6-18	5-16	<0.05
roll over	11-21	6-24	<0.05
sit up	12-25	7-24	<0.05
duration from head control to roll over	2-14	0-12	NS