MEDICAL AND BIOCHEMICAL EFFECTS OF INTERVENTION PROGRAM IN PATIENTS WITH POOR ADHERENCE TO RHGH TREATMENT.

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BACKGROUND AND OBJECTIVE

Optimising adherence to treatment in paediatric patients is important, since non-adherence may lead to incorrect interpretation of growth results and in the treatment course. It has been found that injection frequency is correlated with growth response and final height among children treated with rhGH.

The main aim of this study was to evaluate IGF-I levels and growth velocity before and after a medical intervention in non-adherent patients group of our service.

METHODS

- This was an observational, longitudinal study.
- We used the issued-uncharged rhGH presctiptions of the last 6 months to evaluate compliance. Medium-low adherence was defined as a rate below 92%. 33 patients were included (of 157 children treated with GH)
- We contacted their families in order to inform them about the importance of the treatment, exposing the reasons for poor adherence. Twice monthly monitoring was carried out during 6 month. Furthermore, patients were asked to bring their empty vials in each visit.
- Growth velocity and IGF1 values were calculated before the intervention and were re-calculated afterwards, expressed in SDS.

RESULTS

Moderate-low adherence was identified in 33 of 157 patients (21%).

Characteristics of the patients

- Gender: 24 (73%) boys y 9 (27%) girls
- Age: 12.2±2.5 years (10.5-14).
- Prepubertal state: 8 patients (24 %)
- Duration of rhGH treatment: 4.73±2.5 years (3.5-6).
- Diagnosis: 67% idiopathic GH deficiency (22), 24% SGA (8), 9% others (3).
- Temporary stop of treatment in 10 patients (30%)

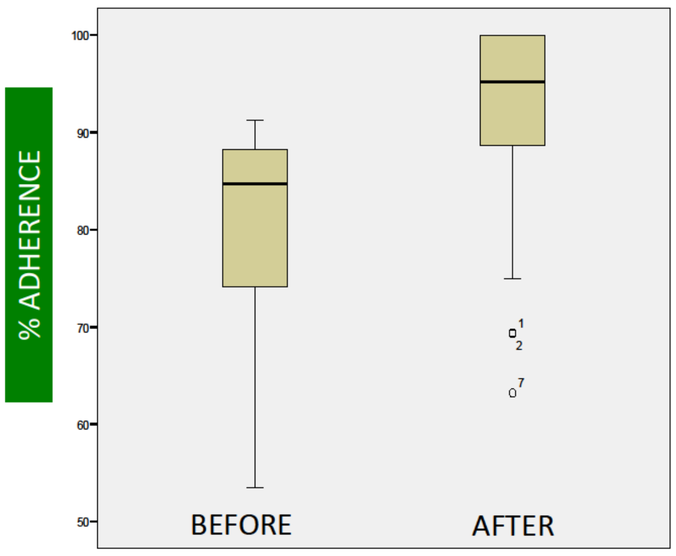
4 patients lost: 2 patients finished the treatment and 2 patients abandoned monitoring. **29 patients in total**

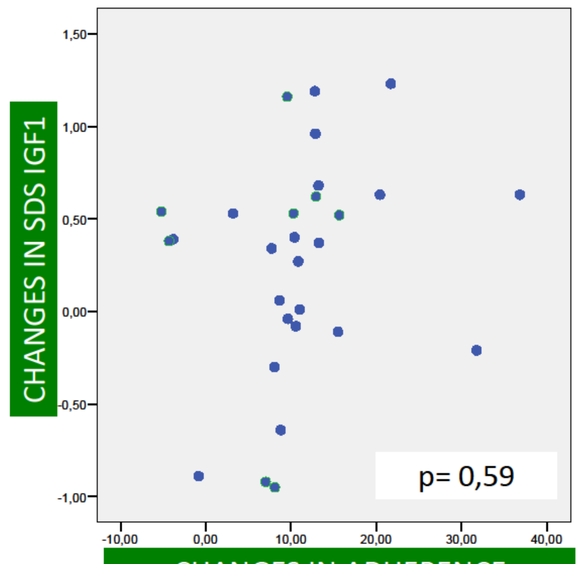
- The initial adherence rate was 80.8%. After intervention the adherence rate was 91,7% (p <0,001).

28 children improved their compliance rate, while one decreased at 91.2 to 86%

- Mean **SDS IGF1** before intervention was 1.44(±0,75) vs 1,70(±0,86) 6 months after intervention (p: 0,031).
- Similar results occur with mean **SDS growth velocity (SDS-GV)** -0,20(±1,3) vs 0,66(±1,48) before and after intervention respectively (p: 0.02)

	Mean	SDS
Initial adherence (%)	80,797	10,14
Final adherence (%)	91,71	7,97
Initial SDS IGF-1	1,44	0,75
Final SDS IGF-1	1,70	0,86
Initial SDS-GV	-0,20	1,36
Final SDS-GV	0,66	1,48





T test for related samples

	Mean	SDS	t	Sig (bilateral)
Initial-final %adherence	-10,91	9,14	-6,42	0,000
Initial-final SDS IGF1	-0,25	0,59	-2,2	0,031
Final-initial SDS-GV	0,87	1,42	3,3	0,02

A positive relationship was observed between changes in SDS IGF-I (Final SDS IGF-I minus initial SDS IGF-I) and changes in adherence to treatment, however the correlation coefficient did not reach formal statistical significance (r= 0.355; p=0.059).

CONCLUSION

- Adherence to rhGH treatment is efficaciously improved by an educational intervention that involves patients and their families, and this improvement has visible and relevant consequences on clinical and biochemical outcomes in a relative short period of time.

ESPE 2015 947--P3
Growth Hormone
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DOI: 10.3252/pso.eu.54espe.2015
Poster presented at: ESPE 2015 BARCELONA European Society for Paediatric Endocrinology
PosterSessionOnline.com