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COMPARISON OF TWO IGF-I ASSAYS IN PATIENTS TREATED WITH GH.

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BACKGROUND

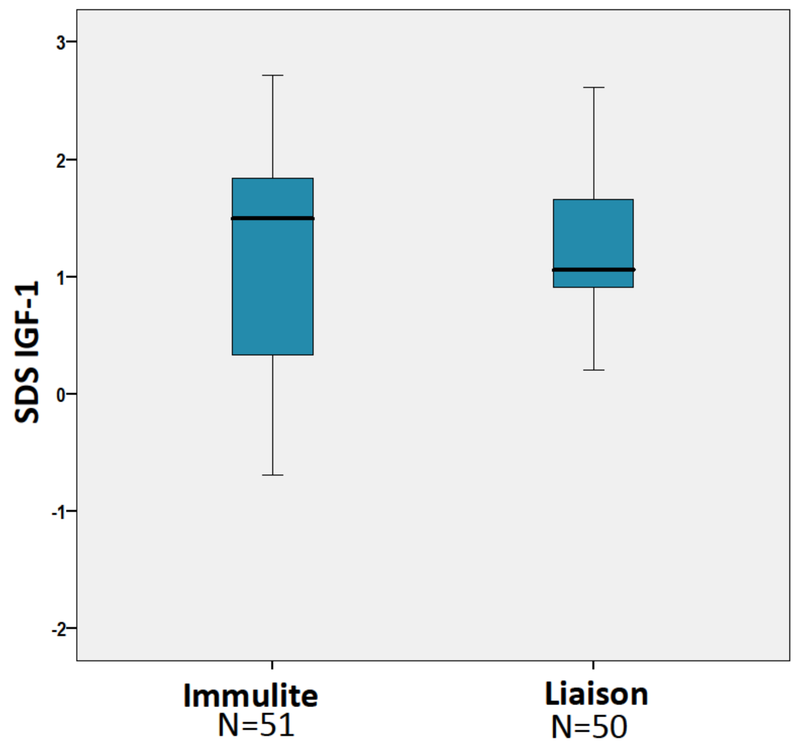
Insulin-like growth factor-I (IGF-I) measurements are used to diagnose and monitoring Growth Hormone (GH) related disorders. GH dose is titrated against IGF-1 concentrations which should be kept within the age-and sex-related normal range. However, IGF-1 results vary widely depending on the immunoassay used. International guidelines advise to report IGF-1 results as Standard Deviation Scores (SDS) from an assay-specific age-related reference population.

OBJETIVES AND METHODS

Our objective was to assess whether the change in immunoassay lead to different clinical interpretation in prepubertal children, followed-up in our paediatric unit and treated with similar dose of GH.
IGF-I was measured by the Immulite 2000 (Siemens Diagnostics) immunoassay until February 2013 and by the Liaison (DiaSorin) from this date onwards.
IGF-1 data from 51 determinations were obtained with the Immulite (group A) and from 50 with the Liaison (Group B).

RESULTS

No differences were found between both groups (Immulite and Liaison) in :
- **age** (7,96±2,2 vs 8,38±2,2 years;p=N.S:),
- **Dose of GH** (0.2165±0,031 vs 0.2096±0,034 mg/kg/week,p=N.S),
- **absolute IGF-1 concentrations** (290,5±118 vs 281,9±78,3 ng/ml,p=N.S.)
- **SDS-IGF-1** (1.22±1,04 vs 1.25±0,69,p=N.S.)



	Method	N	Mean	SDS
Age	Immulite	51	7,96	2,218
	Liaison	50	8,38	2,212
SDS-IGF1	Immulite	51	1,2212	1,04770
	Liaison	50	1,2598	0,68816
IGF1 (ng/ml)	Immulite	51	290,5667	118,04809
	Liaison	50	281,8980	78,28683
Dose of GH (mg/kg/w)	Immulite	51	0,2165	0,03104
	Liaison	50	0,2096	0,03470

Subgroup n = 16. Determination by both methods in the same patient

We took a subgroup of 16 children with determinations by both methods, pre and post 2013 (always treated with GH), where no significant differences in the levels of SDS IGF1 were found.

CONCLUSIONS

- In our group of prepubertal GHD patients treated with GH the change in the immunoassay for IGF-1 was not associated to changes in clinical decisions.
- In both groups the same dose of GH was maintained as there were not significant changes in SDS IGF-1 regardless of the method used.

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