

Erythropoietin and Granulocyte Macrophage colony stimulating factor levels in Growth Hormone deficient children after 1 year of Growth Hormone therapy

Maria Pankratova¹; Maria Vorontsova¹; Alexander Yusipovich²; Tatyana Shiryayeva¹; Valentina Peterkova¹

¹Endocrinology Research Centre, Moscow, Russian Federation

²Lomonosov Moscow State University, Faculty of Biology, Moscow, Russian Federation

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BACKGROUND

An increase in growth rate in children suffering from growth hormone deficiency (GHD) subjected to recombinant growth hormone treatment (rGHT) was shown to be accompanied by acceleration of metabolic processes that may stimulate hematopoiesis

AIMS

The aim of the present study was to examine the effects of one year rGHT on erythropoietin (EPO) and Granulocyte Macrophage Colony Stimulating Factor (GM-CSF) levels in GHD children

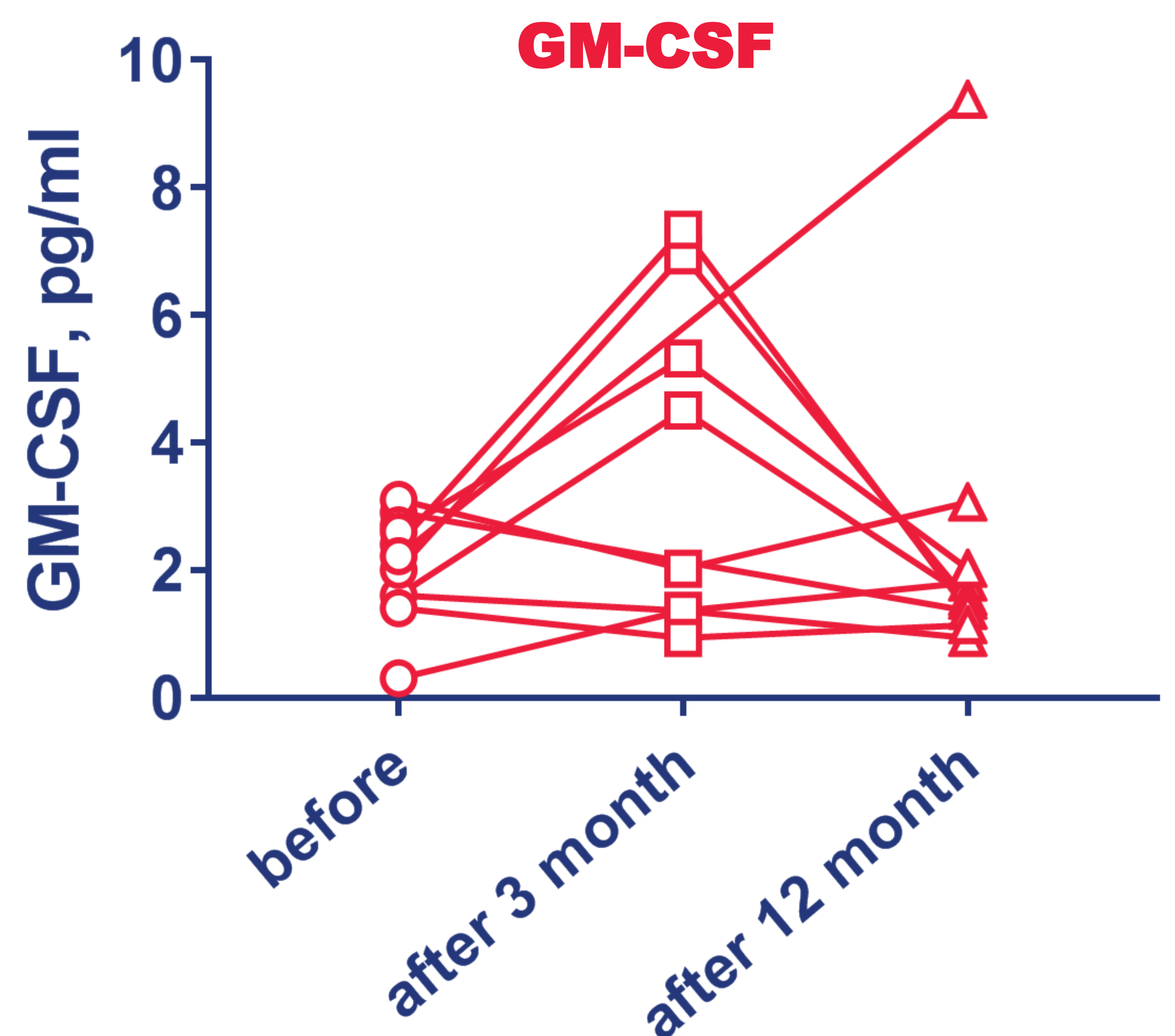
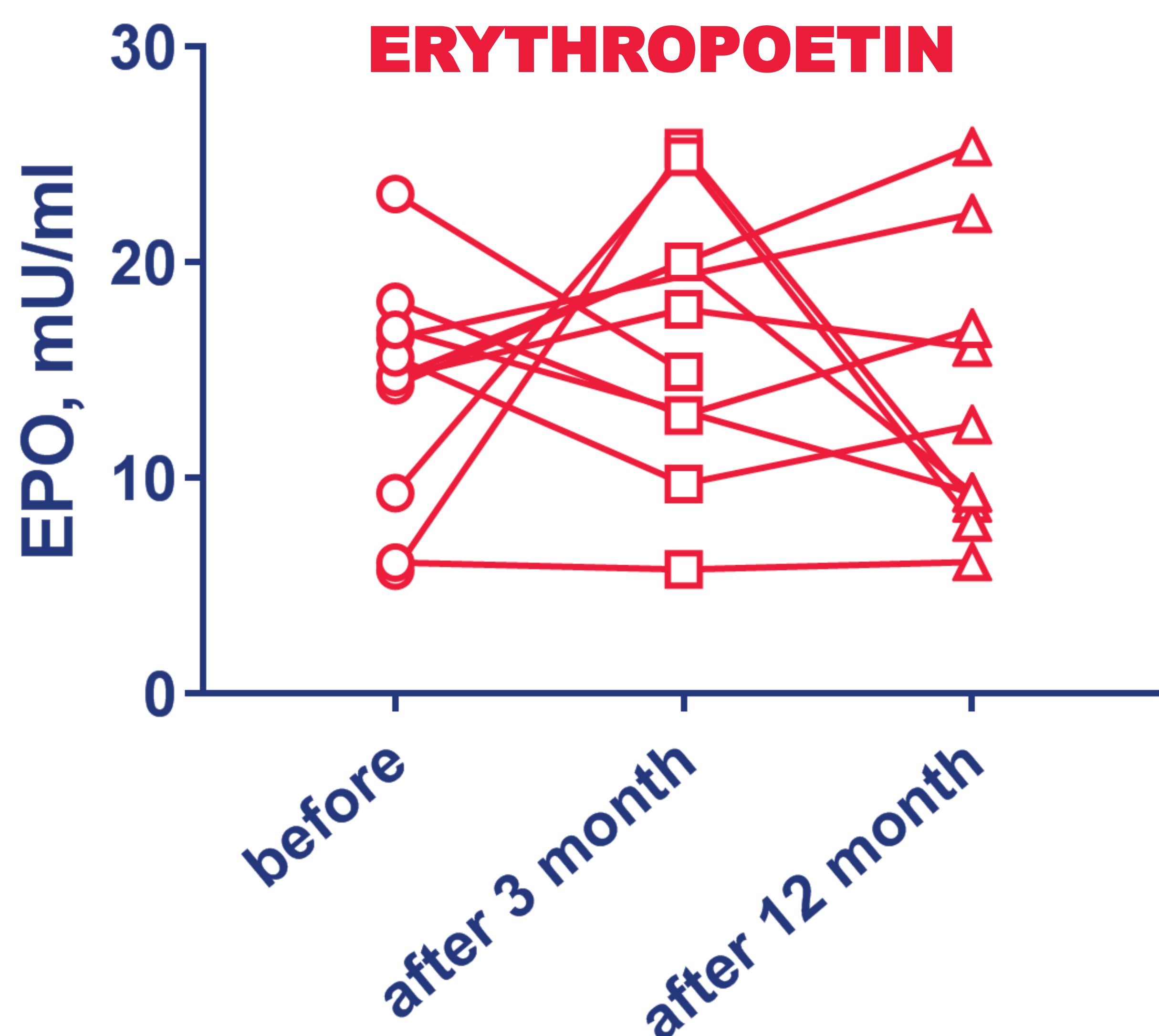
RESULTS

As expected, over the whole period of rGHT treatment we observed a significant increase in all anthropometric parameters. IGF-1 and IGFBP-3 values and RBC count also increased. Three months into rGHT we observed a slight increase in EPO and GM-CSF levels (median 17.8 mU/ml and 3.3 pg/ml, respectively), which was however statistically insignificant. Further, by the end of rGHT both parameters did not differ significantly from their initial values (for EPO median 14.7 & 10.9 mU/ml and for GM-CSF median 2.2 & 1.6 pg/ml, respectively). Also, we did not observe any correlation between EPO, GM-CSF levels and other measured blood parameters

METHODS

Eleven treatment-naïve prepubertal GHD children were included in the study (aged 3 to 9 years old, median 5.7 years). The study protocol included blood tests in three time points: at baseline, after 3 month of rGHT and after 1 year of rGHT. Parameters analyzed included: IGF-1 and IGFBP-3 levels, red blood cell (RBC) count, mean corpuscular hemoglobin (MCH), mean corpuscular volume (MCV) and EPO and GM-CSF levels

statistical significance between parameters were evaluated using Friedman test with post-hoc Dunn's multiple comparisons test, $p < 0.05$



CONCLUSIONS

This work demonstrates that one year rGHT in GHD children does not lead to an increase of hematopoiesis-stimulating factors EPO and GM-SCF, suggesting that haematopoiesis is not increased during the treatment period

Authors have nothing to disclose