



# INSULIN-LIKE GROWTH FACTOR-1 (IGF-1) LEVELS AND HEIGHT IN CHILDHOOD NEPHROTIC SYNDROME: A CASE CONTROL STUDY

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## Background

Growth retardation is often seen in childhood nephrotic syndrome (NS). The underlying mechanisms responsible for this condition remains unclear. Nephrotic condition causing loss of insulin-like growth factors (IGFs) and corticosteroid therapy suggesting potential development of IGF-1 resistance, one of the main factors contributing to growth failure.

## Objective

To determine difference of IGF-1 levels and height between childhood NS and healthy child, along with correlation of IGF-1 levels with height.

## Methods

This was a case control study (February–December 2023). Inclusion criteria included age 5–18 years, meeting the diagnostic criteria of NS as cases, and age-matched of healthy children as controls. IGF-1 levels examination using immunochemiluminescent method and height measurement using stadiometer. Continuous data with normally distribution were expressed as mean and standard deviation, non-parametric distribution as median and minimum-maximum, and categorical data as proportions. Differences between the groups analyzed using Independent T test, and correlation between IGF-1 levels and body height used the Pearson correlation.

## Results and Discussion

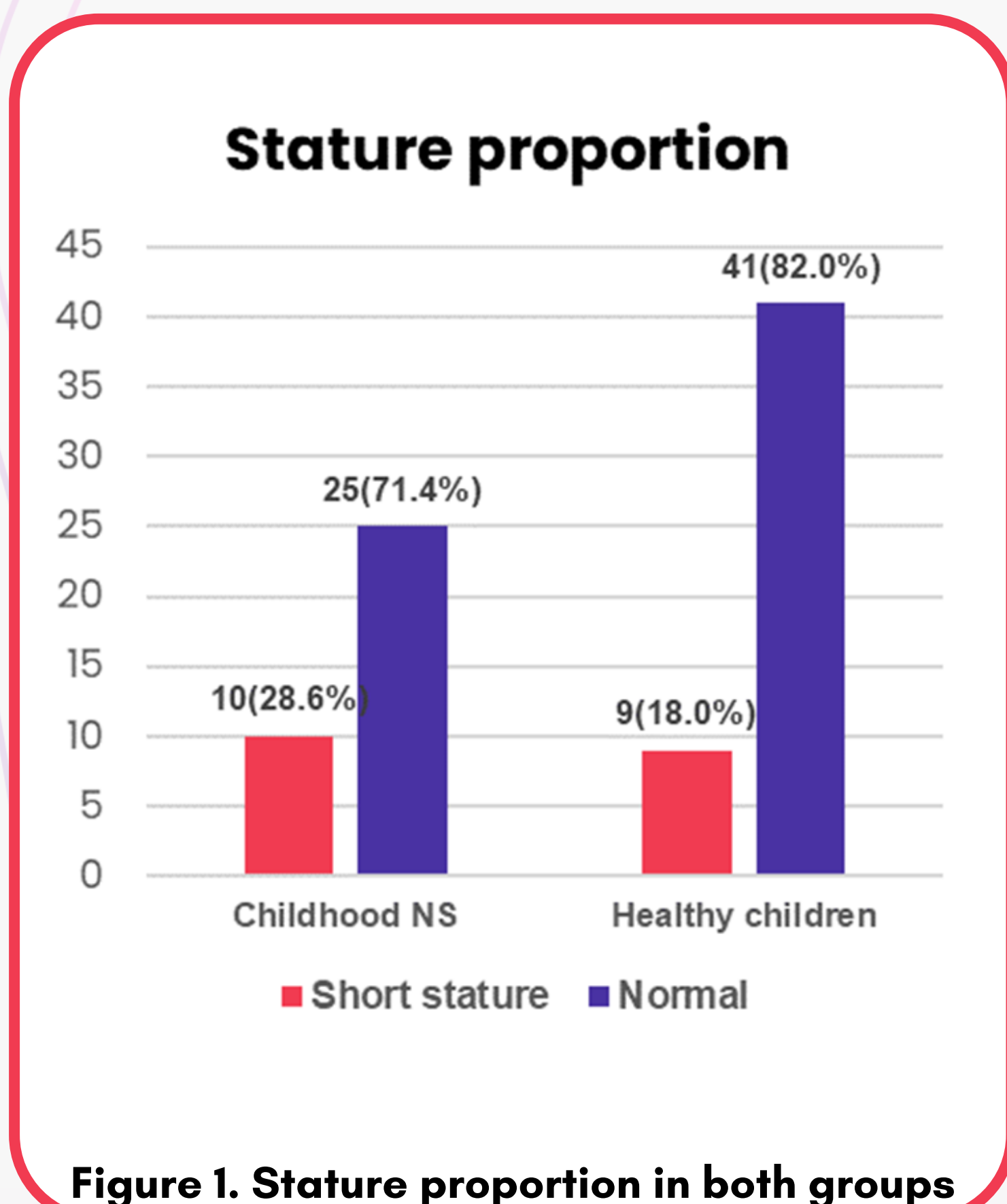


Figure 1. Stature proportion in both groups

	Childhood NS	Healthy children	p value
IGF-1 levels, ng/mL	194.3 ± 76.8	194.7 ± 86.49	0.470
Height, cm	142.5 ± 17.28	145.3 ± 16.74	0.982

Independent t test

Childhood NS			Healthy children		
IGF-1 levels (ng/mL)	Height (cm)	p value	IGF-1 levels (ng/mL)	Height (cm)	p value
194.3 ± 76.8	142.5 ± 17.28	0.177	194.7 ± 86.49	145.3 ± 16.74	< 0.001*

\*Pearson correlation

## Conclusion

There is no significant difference of IGF-1 levels and height between the groups, and correlation of IGF-1 levels and height in healthy children is significant.

**Keywords**  
Childhood; Height; IGF-1 level; Nephrotic syndrome

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