

# Renal Function in Acromegaly – Experience from a Portuguese Centre

Carlos Tavares Bello ; Fonseca, RC; Sequeira Duarte, J ; Vasconcelos, C  
Hospital de Egas Moniz – Centro Hospitalar de Lisboa Ocidental



## INTRODUCTION

The Nephron is a known target organ of the Growth Hormone/Insulin-like factor-1 axis.

They influence glomerular and tubular function having an important physiological role in water and electrolyte balance, especially in Acromegaly.

The aim of the study was to investigate renal function in acromegalic patients during active disease and remission and evaluate hormonal impact on renal function markers.

## METHODS

A retrospective, longitudinal, observational analysis was performed.

Variables analyzed: Creatinine, glomerular filtration rate (GFR), IGF1/GH and the remainder pituitary hormones.

Descriptive statistical methods ; Pearson correlations and student T-test were used to analyze numerical data.

Results are presented as mean and standard deviation.

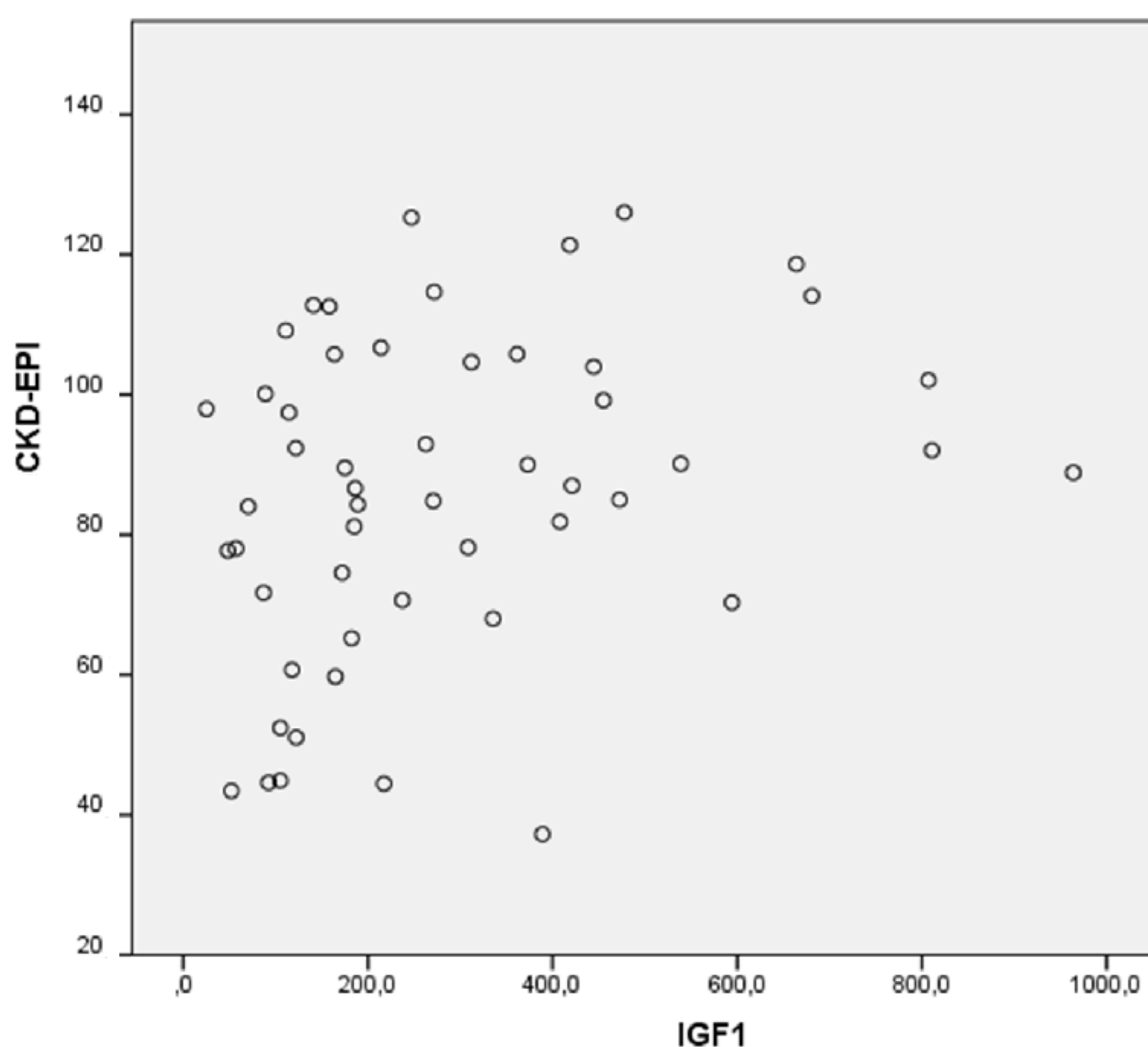
## RESULTS

- 52 Acromegalic patients.
- Females: 69.2%
- Age  $55,5 \pm 14,8$  years.
- The underlying etiology was a pituitary adenoma in 100%.
- Surgery was undertaken by 82,6%
- Medical therapy was used in 92,2%
- 19.2% were treated with Radiotherapy.
- Disease control - 71.2%.

Variable	
Creatinine (mg/dL)	$0,84 \pm 0,21$
GFR (CKD-EPI) mL/min/1,73m <sup>2</sup>	$86 \pm 22,9$
GH (ng/mL)	$2,7 \pm 5,4$
IGF1 (ng/mL)	$288,3 \pm 217$

Variable	
Age	$55,5 \pm 14,8$
Male / Female	30,8 / 69,2
Microadenoma	21,2%
Macroadenoma	76,9%
Invasive Adenoma	1,9%
Surgery as initial therapy	82,6%
Pharmacological therapy as initial treatment	17,3%

P values	Creatinine	CKD-EPI	GH	IGF-1
Creatinine (mg/dL)		<0,001	0,09	0,08
CKD-EPI	<0,001		0,051	<b>0,025</b>
GH	0,09	0,051		<0,001
IGF-1	0,08	<b>0,025</b>	<0,001	



- Statistical significant correlations were found between IGF-1 and eGFR (p 0,025).
- Patients in remission had a lower mean eGFR (79 vs 89 mL/min/1.73m<sup>2</sup>).
- Degree of elevation of IGF1 from the upper normal range (expressed in %) was correlated with eGFR, creatinine and metabolic parameters (Fasting blood glucose and glycated hemoglobin) with statistical significance.

## CONCLUSIONS

The current study demonstrates consistently a possible positive correlation between IGF1/GH axis and renal function markers. Despite being a retrospective study, the sample size may further support the relevance of the GH/IGF1-renal axis in Acromegaly.

