

# Usefulness of salivary cortisol levels in secondary adrenal insufficiency in pediatric population

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## Introduction

The main cause of secondary adrenal insufficiency (SAI) in children is prolonged treatment with exogenous corticosteroids. Plasma cortisol levels (PC) after administration of ACTH is the most used indicator of adrenal function in clinical practice. Salivary cortisol levels (SC) is emerging as an alternative technique in the diagnosis of adrenal pathology, especially useful in the pediatric population because it is a simple noninvasive test.

## Objective

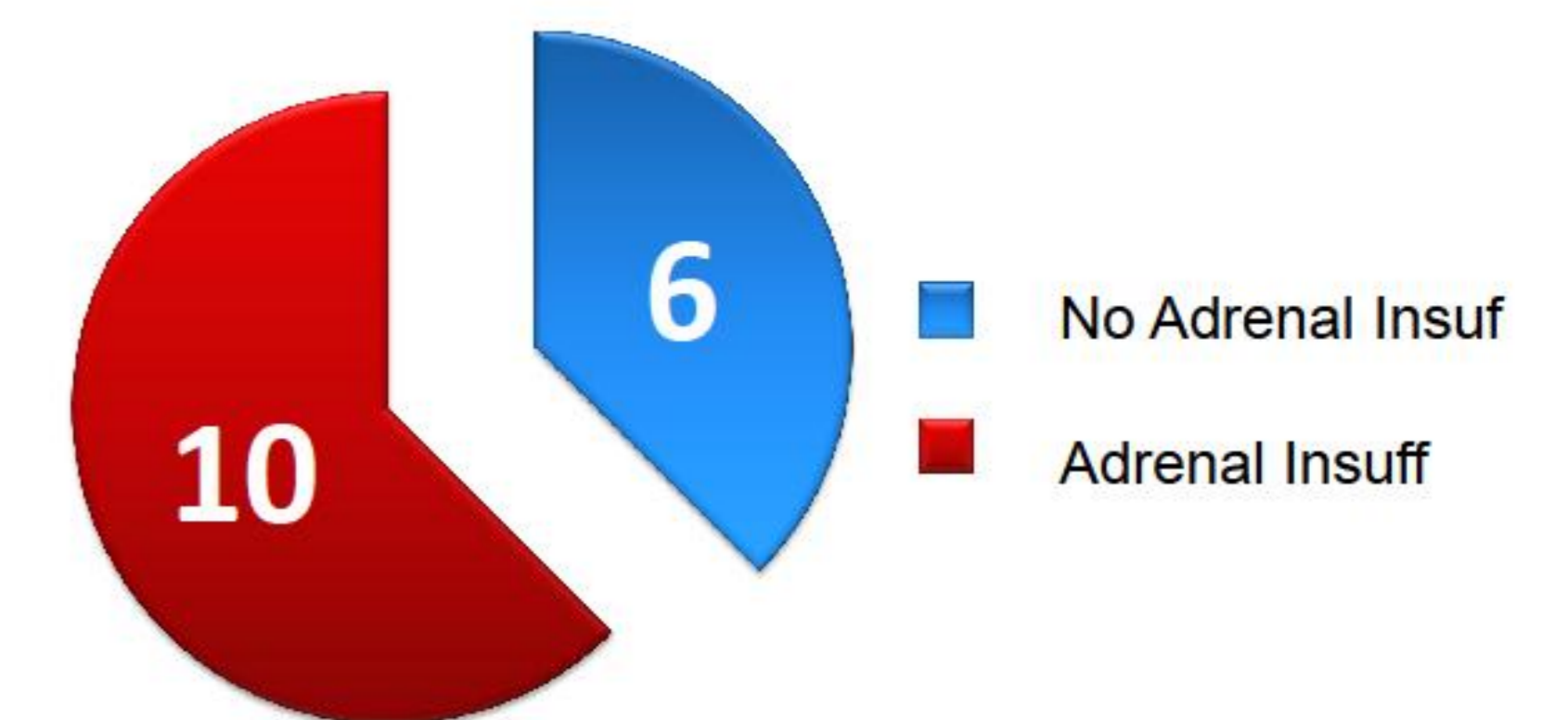
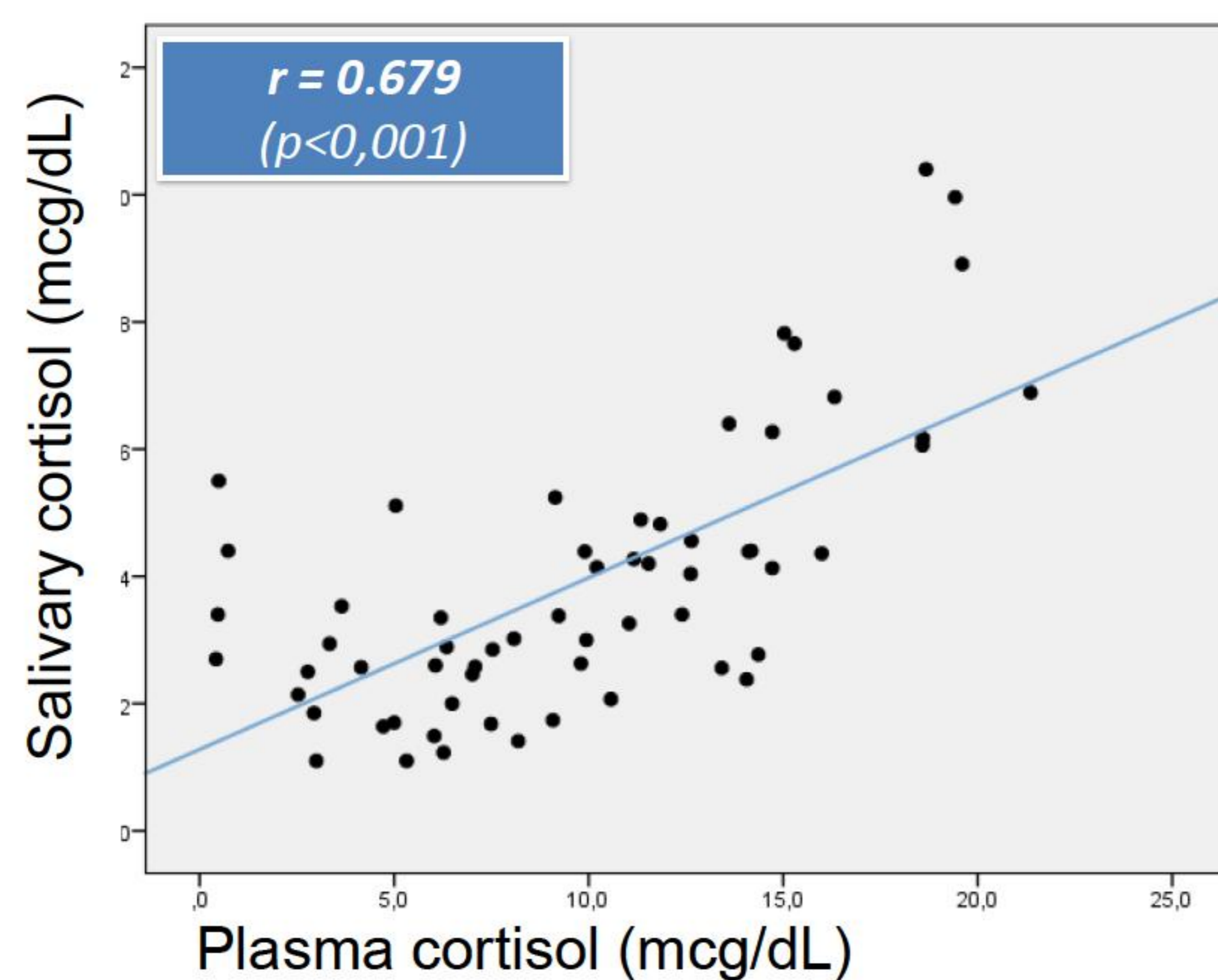
To evaluate the correlation between PC and SC, to assess the usefulness of salivary determination as a diagnostic parameter in children with suspected iatrogenic SAI.

## Methods

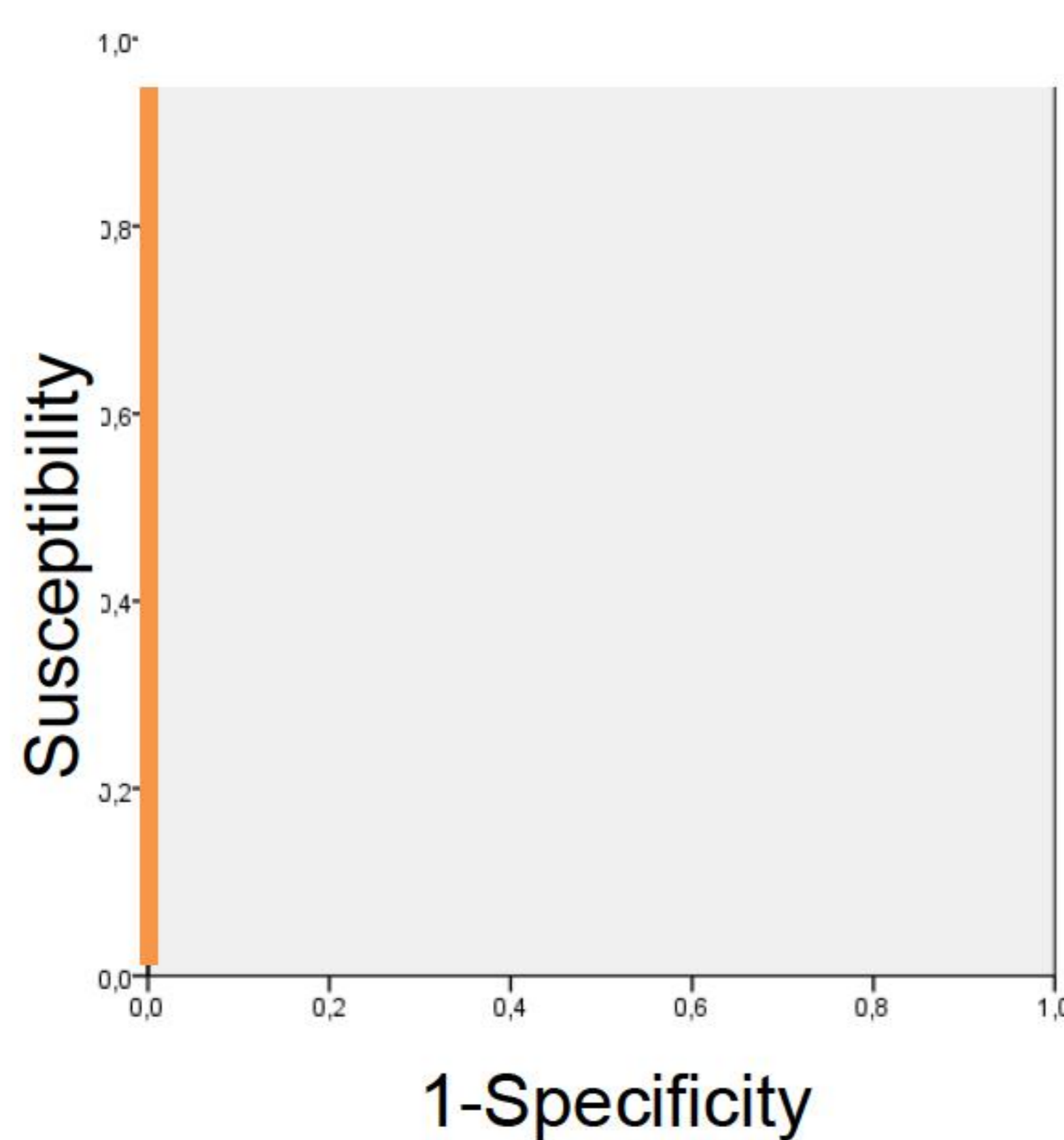
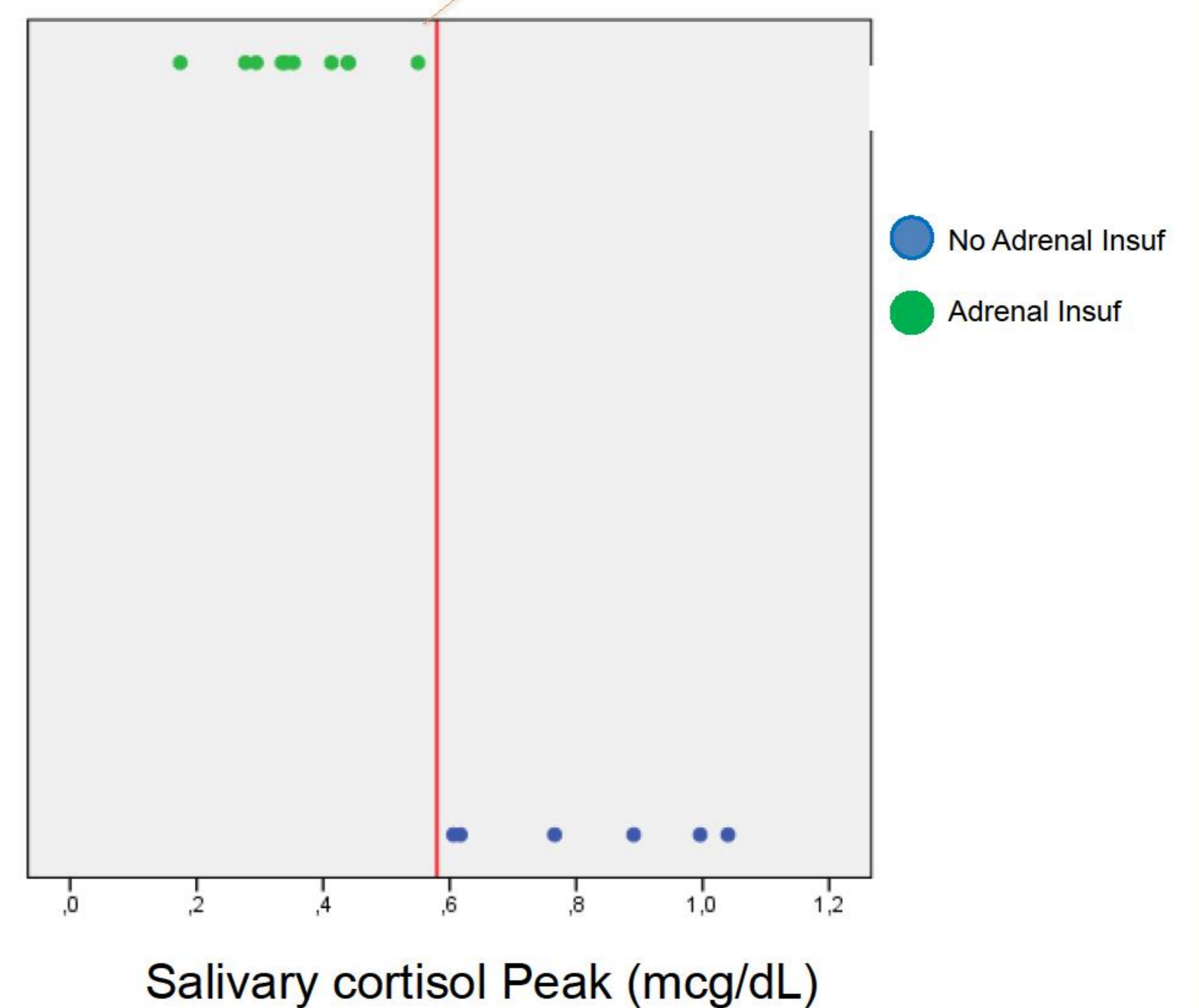
-Prospective 2 years study in patients 0-18 years of age treated with corticosteroids for more than 15 days.  
-Determination of PC and SC at baseline and after administration of ACTH 1mcg intramuscular (at 30, 60 and 90 minutes).

## Results

N= 120 samples ( 60 plasma and 60 salivary) of 15 studies of 10 patients (2♂ / 8♀), age of 12 years (range: 3.6-16.5), different underlying pathologies, studied for suspected SAI in the context of prolonged corticosteroid therapy.



SC 0.58mcg/dL



Salivary cortisol	Plasma cortisol		
	(+)	(-)	
(+)	10	0	10
(-)	0	6	6
	10	6	16

## Conclusions:

- Salivary cortisol:
  - is a less invasive test, easier and quicker to realize than plasma cortisol.
  - appears to reflect the levels of free plasma cortisol.
  - it could replace the plasma cortisol as diagnostic method for iatrogenic SAI in children.
- In our study, a value of SC > 0.58mcg / dL was able to discriminate patients without SAI

