

# Posture-responsive primary aldosteronism

## – the utility of seated saline suppression test, case report



EP 315

Iva Jakubíková<sup>1</sup>, Jiří Horáček<sup>1</sup>, Sylvie Špitálníková<sup>4</sup>, Filip Gabalec<sup>1</sup>, Marek Ballon<sup>2</sup>, Miroslav Lojík<sup>3</sup>, Pavel Žák<sup>1</sup>

4th Department of Internal Medicine – Haematology<sup>1</sup>, 1st Department of Internal Medicine – Cardioangiology<sup>2</sup>, Department of Radiology<sup>3</sup>, University Hospital Hradec Kralove, Czech Republic and Charles University in Prague, Faculty of Medicine in Hradec Kralove, Czech Republic and Department of Nuclear Medicine, Regional Hospital, Havlickuv Brod, Czech Republic<sup>4</sup>

### INTRODUCTION

The diagnostic procedure of primary aldosteronism (PA) includes four confirmatory tests, of which the saline suppression test (SST) seems to be the most convenient one. Current guidelines recommend SST to be performed in the recumbent position. However, a recent preliminary study demonstrated a higher sensitivity of SST when performed in the seated position. Here, we report a case of posture-responsive PA with a negative recumbent SST but clearly positive seated SST.

### CASE REPORT

**A 60-year-old woman was referred to our department with the suspicion of primary aldosteronism:**

- Arterial hypertension since 40, unsatisfactory correction using 3 different drugs (acebutolol, valsartan, amlodipine)
- Tendency towards hypokalemia requiring high doses of potassium chloride supplementation
- Screening test (seated):

Plasma renin activity: under detection limit  
Plasma aldosterone concentration: 710 pmol/l

- CT scan revealing a unilateral mass of 22x15x10 mm in her left adrenal gland

#### Diagnosis and management:

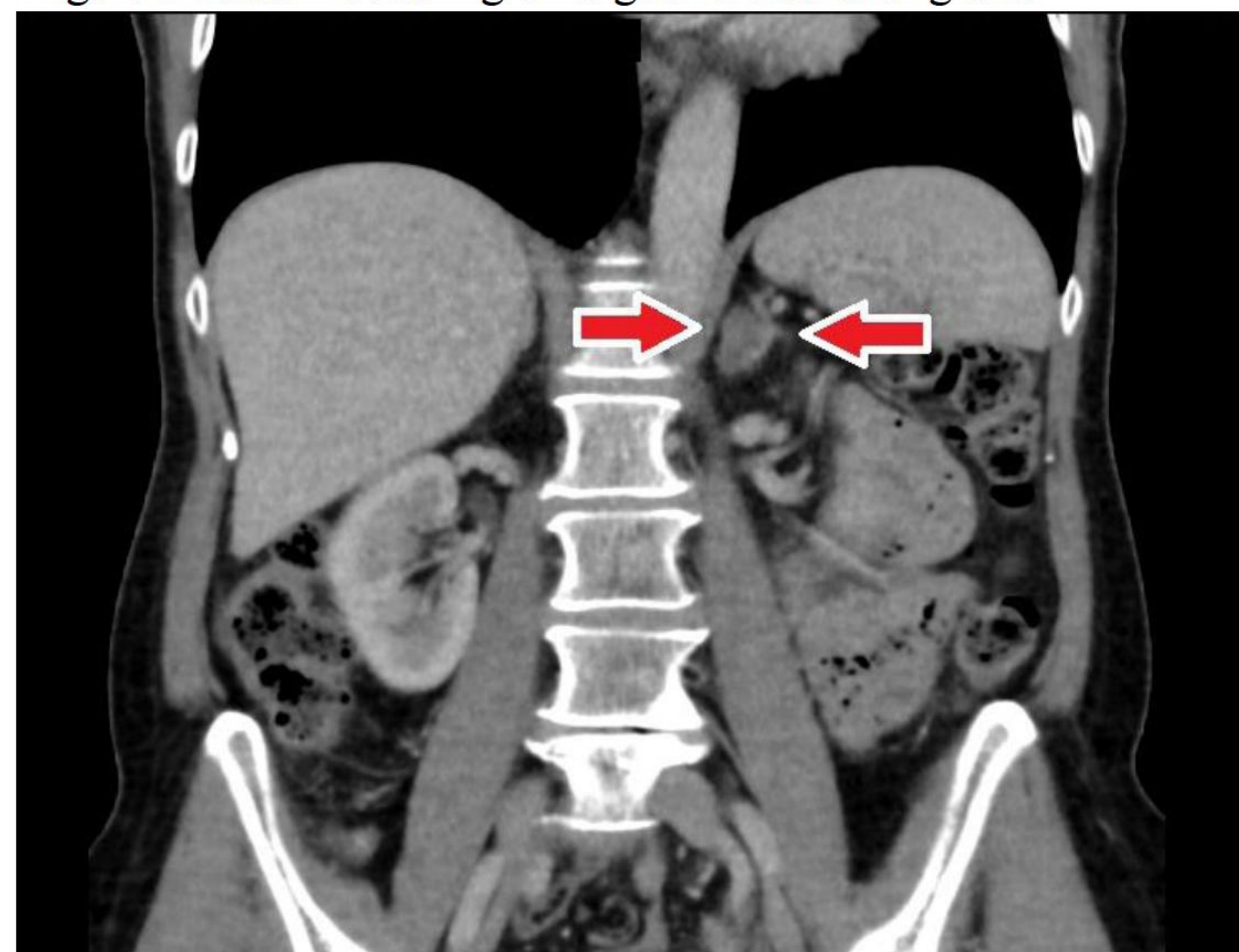
- Overproduction of cortisol and catecholamines was excluded by laboratory testing
- Recumbent intravenous SST (after overnight sleep) was negative, however the seated one was positive (Table)
- Adrenal venous sampling (including cosyntropin stimulation) confirmed an overproduction from the left side
- Laparoscopic left adrenalectomy was performed
- Now, the patient is without potassium supplementation and the antihypertensive treatment could be reduced

**Table: Seated SST vs. Recumbent SST**

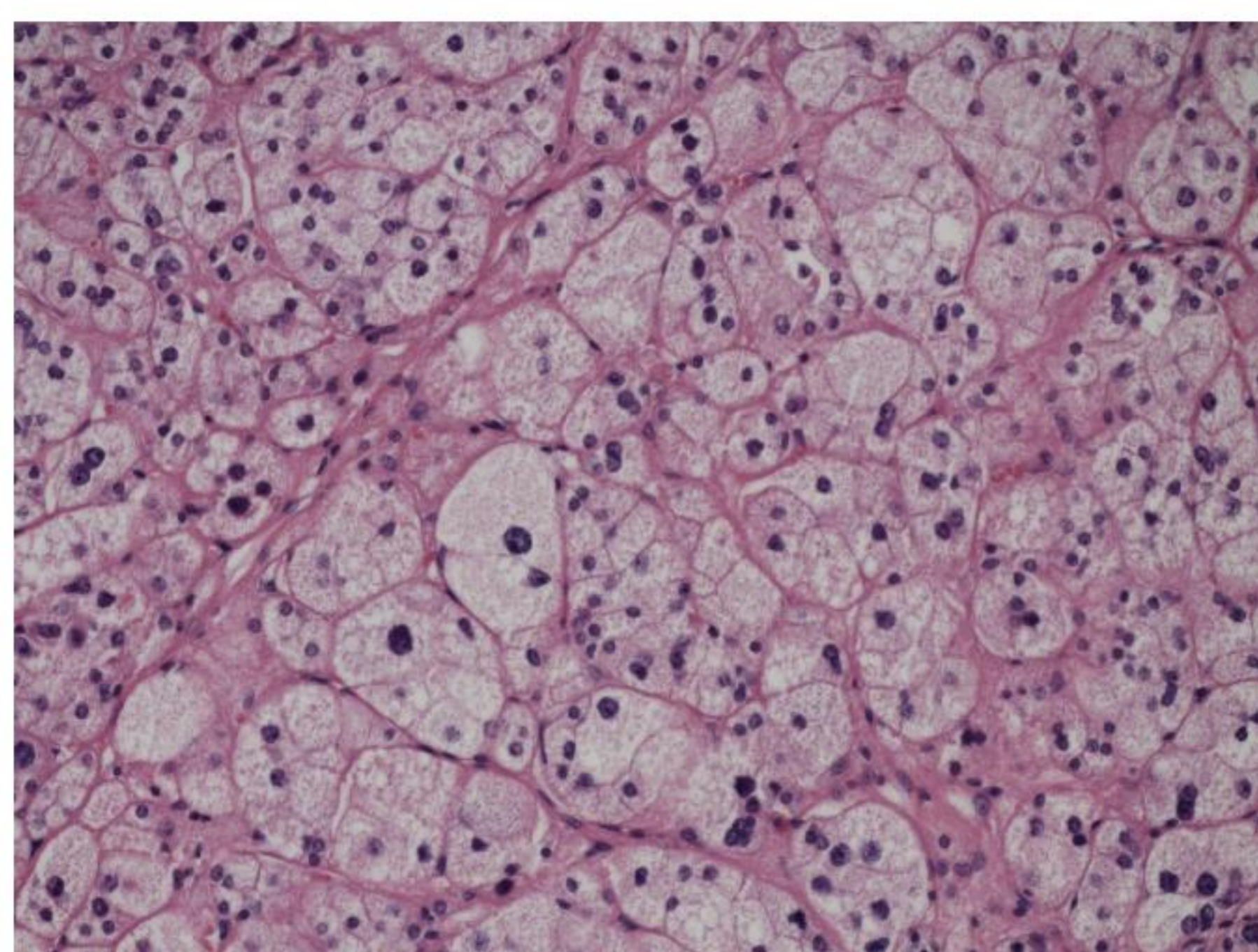
	Plasmatic aldosterone concentration (pmol/l)	
	Seated position	Recumbent position (overnight sleep)
Prior saline	894	60
After saline	657	100

Diagnostic criterion for PA: levels above 277 pmol/l after saline infusion test

**Fig.1: CT scan revealing enlarged left adrenal gland**



**Fig.2: Histology of cortical adrenal adenoma**



### CONCLUSION

As many patients may have a posture-responsive primary aldosteronism, the saline suppression test should preferably be performed in the seated rather than recumbent position, thus providing better sensitivity.

