

# EP272: RAAS-inhibition and diagnostic challenges in severe primary hyperaldosteronism

## Introduction

- Accurate diagnosis in primary hyperaldosteronism is essential for adequate causative treatment<sup>1</sup>
- RAAS-affecting antihypertensives may interfere with diagnostic procedures, possibly leading to misclassification of disease<sup>1</sup>
- Withdrawal of RAAS-inhibition may not be possible in patients with severe hyperaldosteronemia due to treatment refractory hypertension and hypokalemia
- **AIM:** to report on the diagnostic and curative outcomes in a case of a patient with severe hyperaldosteronism where RAAS-inhibition could not be safely withdrawn

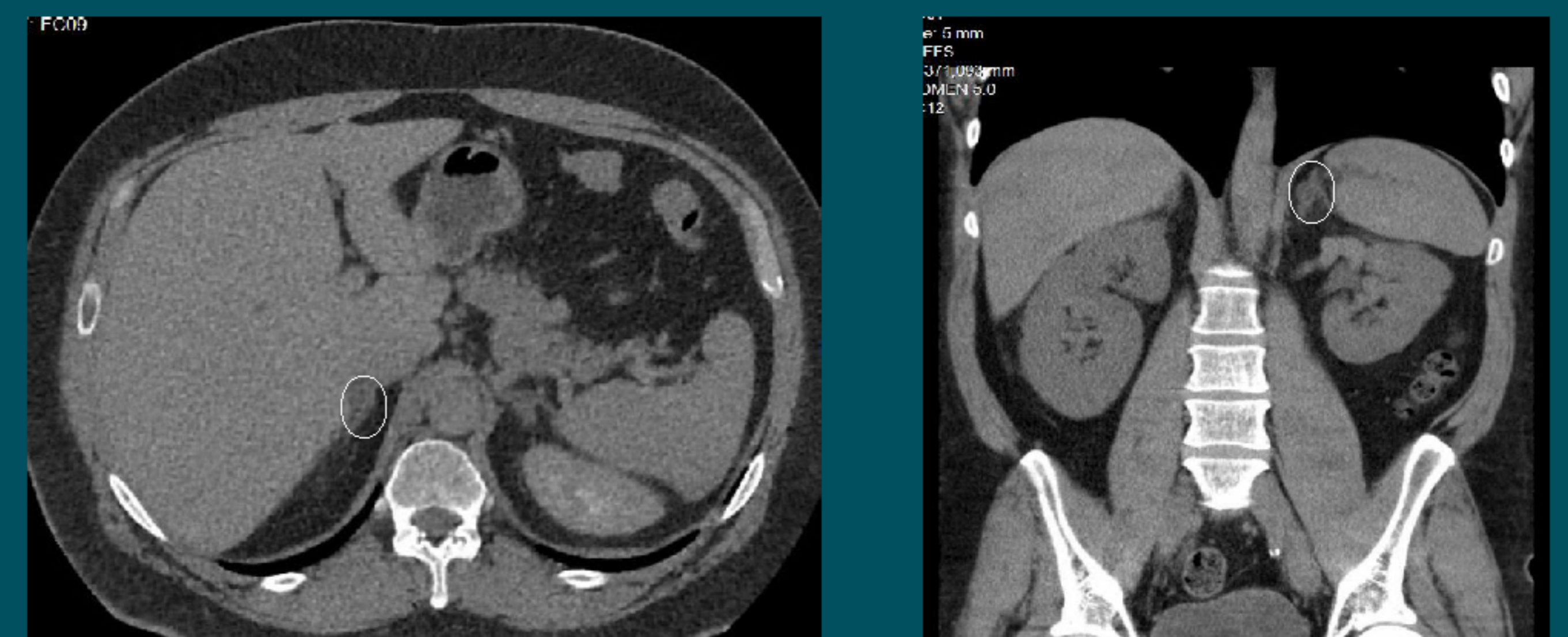
## Conclusions

- Even in very severe primary hyperaldosteronism, RAAS-interfering medication should be withdrawn to allow for accurate diagnostic testing and possible curative treatment.
- Very high doses of potassium replacement and mineralocorticoid antagonists may be required to treat the severe phenotype
- If RAAS-interfering medication cannot be withdrawn, then renin (activity) should be measured; diagnostic procedures can be interpreted reliably in case of persistently suppressed renin concentrations/activity.

## Case history

- 37 year old Caucasian male
- **Referred** for primary hyperaldosteronism, no causative diagnosis
- **Current medication:** spironolactone 200mg, barnidipine 20mg, doxazosine 12mg, metoprolol 25 mg, potassium chloride 100 mmol
- **Withdrawal** of RAAS-interfering medication led to hypokalemic hypertensive crisis and repeated emergency unit admittance
- **Symptomatology:** muscle weakness. Aggressive and restless. Reduced libido
- **Physical:** BP 150/110 mmHg, BMI 36,3 kg/m<sup>2</sup>, Adiposity and gynecomastia
- **Lab :** Sodium 144 mmol/L, potassium 3.9 mmol/L.  
(No medication) Renin 3.8 mU/L (ref 5.3 - 99)  
Aldo 3620 pmol/L (ref 100 - 1200) (**ARR** 952 pmol/mU)

## Imaging

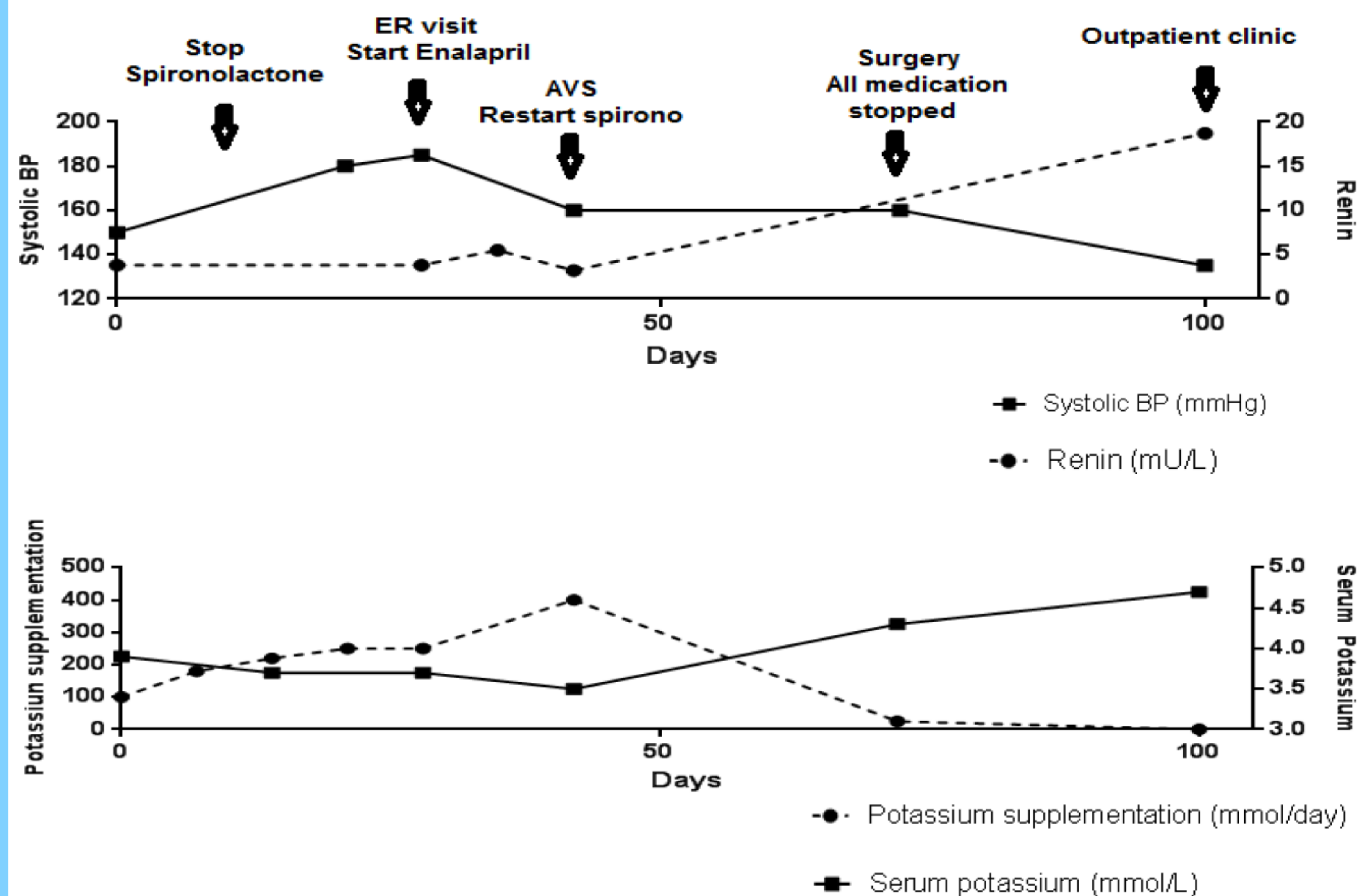


Adrenal CT showing a 14mm adenoma in the left adrenal gland and a 20mm adenoma in the right adrenal gland

## Clinical course

- Indication for selective **Adrenal Vein Sampling (AVS)**
- **Medication** adjusted to:
  - Spironolactone tapered, potassium chloride titrated
  - Hydralazine, verapamil and doxazosine for hypertension
- Two weeks after discontinuing spironolactone >> **emergency room** :
  - **Complaints:** dizzy, blurry vision, headache
  - Hypertensive :185/110 mmHg
  - **Medication:** hydralazine 80mg, doxazosine 16mg, verapamol 240mg, potassium 250 mmol
  - **Retinal examination:** grade II hypertensive retinopathy

→ Enalapril added while monitoring renin concentration (*Panel*)
- **AVS** succesfully performed while taking enalapril 40mg daily
  - Evident right sided origin of aldosteron hypersecretion
  - **Spironolactone** reinitiated while waiting for surgery (400mg/day)
- Successful right side adrenalectomy
  - Currently **normotensive** with lisinopril monotherapy
  - Aldo <100 pmol/L



## References

- 1) Rossi et al., *Hypertension* 2014

## Acknowledgments

We would like to thank the patient for his kind permission to present his case history

## Contact

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