

# PRIMARY ALDOSTERONISM CAUSED BY CONN'S SYNDROME

## - CLINICAL CASE REPORT

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ECE2015



### INTRODUCTION

Primary aldosteronism (PA) is a disturbance caused by the autonomous production of aldosterone by the supra-renal gland. The most frequent causes are due to bilateral supra-renal gland hyperplasia and aldosterone producing adenoma. It is most frequent amongst women aged between 30 and 50 years of age. It is clinically characterised by hypertension (HTN), resistant to therapy. Hypokalaemia, which is known as a "classical marker" is found in less than a third of the patient and is followed by inespecific symptoms (muscle pain/weakness, polydipsy, polyuria, nocturia and paresthesia). Diabetes Mellitus (DM) can also be found in some cases.

### CLINICAL CASE

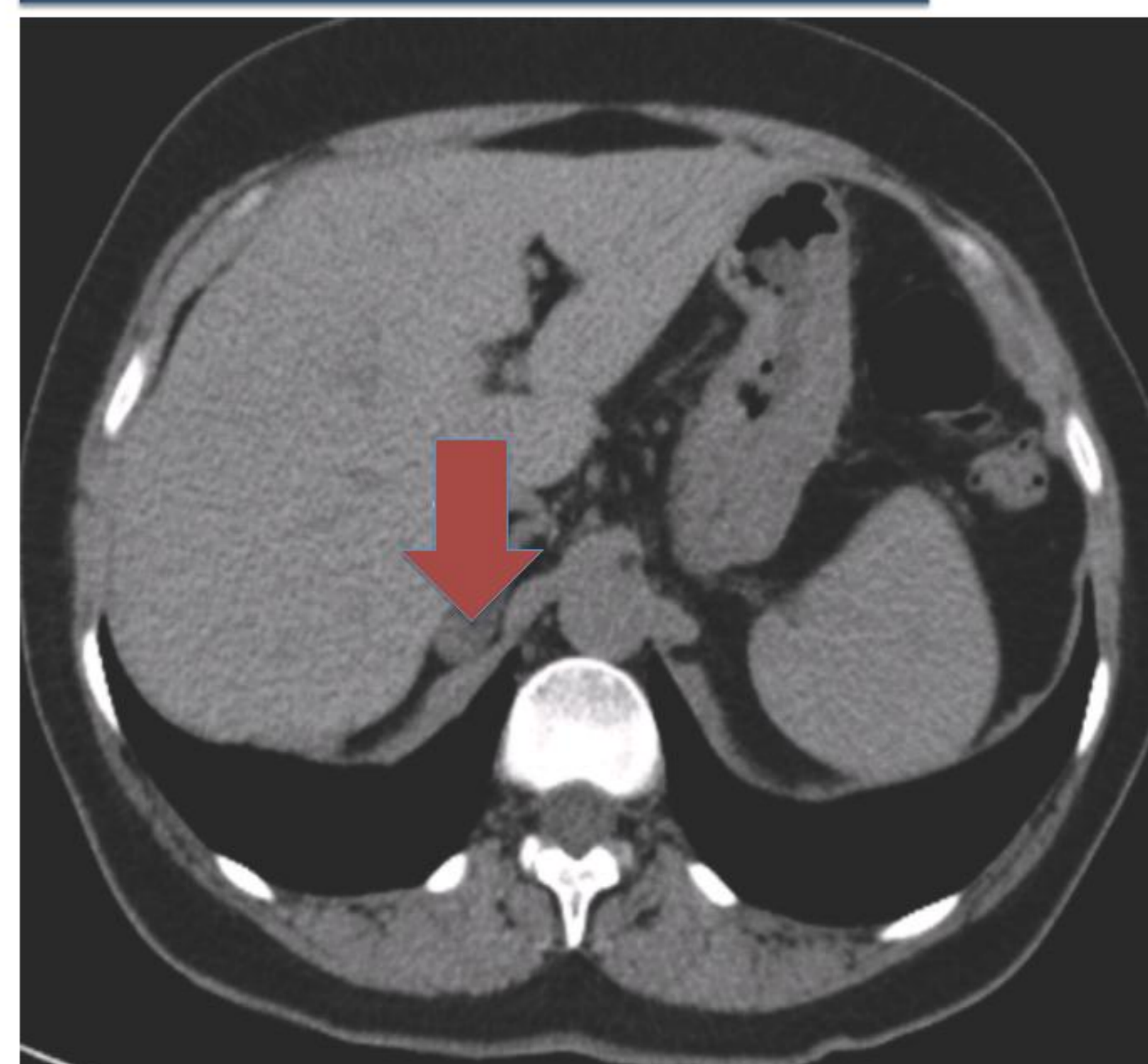
- 55 year old woman, referred from internal medicine department due to a adenoma on supra-renal gland, with HTN and hypokalaemia.
- The patient has been hypertensive for the past 16 years with the HTN being resistant to therapy despite being on 4 antihypertensive drugs (Losartan/HCTZ 100/25 mg, Carvedilol 25 mg, Spironolactone 50 mg).
- Inespecific complains of muscle pain, asthenia and paresthesia.

- The patient was diagnosed with DM and started on Metformin 850 mg bid.
- She was also given KCL for her hypokalaemia until 10 pills/dia.
- For the study the patient suspended antihypertensive drugs and began Verapamil 10 mg for HTN control.

### ANALYTIC STUDY:

Assay		Reference value
Urine free cortisol (urine 24 horas)	173,4	55,5-286 ug/24h
Cortisol after 1 mg dexamethasone supression test	0,9	
DHEA-S	103	35-430 ug/dL
Fractioned metanephrines (urine 24h)		
Metanephrine	81,29	74,00-297,00 ug/24h
Normetanephrine	307,56	105,00-354,00 ug/24h
Fractioned catecholamines (urine 24h)		
Adrenaline	6,44	0,01-19,96 ug/24h
Noradrenaline	70,54	15,06-80,03 ug/24h
Dopamine	267,98	64,93-400,00 ug/24h
Vanillylmandelic acid	3,50	1,39-6,53 mg/24h
Ratio aldosterone/renin	17,86	< 5,7

### IMAGIOLOGIC STUDY:



Abdominal CT scan:  
" The right supra renal gland shows a solid node with 23 mm with spontaneous density compatible with adenoma. The left supra-renal gland has preserved morphology with no node. No further changes in the exam."

### CONFIRMATORY TEST

Salt-loading test: aldosterone 0` - 35.94 ; 4 hrs - 56.18 ng/dL  
Normokalaemia : 3,5 mmol/L

Confirmed diagnosis of PA !

48 h

- Normokalaemia.
- Ratio aldosterone/renin normalised (2,2)

Right-sided adrenalectomy  
- No complications

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- Maintains normokalaemic.
- Suspended metformin.
- Blood pressure controlled with lercanidipine 10 mg/day.

Pathology: "...compatible with adenoma of supra-renal cortex."

Echocardiogram: "Heart chambers with normal dimension. Slight hypertrophy of left ventricle. Global and segmentar systolic left ventricle good function. Good systolic global function of right ventricle."

### DISCUSSION

Due to the resistant hypertension before the age of 40 and the lack of experience or unsatisfactory results obtained by catheterising supra-renal veins the surgical option was chosen in this case. We would like to highlight the importance of monitoring potassium levels on a weekly basis during the first month post-surgery due to the risk of transient hipoaldosteronism. With this patient we noticed an improvement in the blood pressure profile during the first month after the surgery. As described in the literature, an improvement or normalization of hypertension can happen 1-6 months post surgery. However, due to the patients long standing hypertension it is unlikely that this will normalise.

