

# A history of 30 years severe uncontrolled hypertension: Conn's Syndrome

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## Introduction

Primary aldosteronism (PA) is a common cause of arterial hypertension. An accurate diagnosis of PA with AVS and proper treatment should have substantial prognostic value.

## Case

A 65-years-old Moroccan man was regularly followed in the outpatient clinic for type 2 diabetes since 2010 and was well controlled with an oral treatment. His past medical history included severe hypertension since 1985.

Despite four antihypertensive agents, his blood pressure was not controlled (BP: 220/120 mmHg). A suspicion of renal artery stenosis was excluded by an invasive procedure.

He presented an impaired renal function (GFR: 50 ml/min) and his serum potassium level was 2,7 mmol/l.

The renin aldosterone ratio at 26 and a high 24h urinary aldosterone value, were compatible with a diagnosis of primary hyperaldosteronism.

A 5 hours rhythm of serum aldosterone/renin/ACTH/cortisol showed a correlation between aldosterone and ACTH/cortisol, but not with renin suggesting the presence of an adenoma.

## Diagnostic Tests:

Figure: CT scan of the abdomen showed a right adrenal mass approximately 1,2 cm in diameter.



The results of the adrenal veins sampling correlated with a right lateralization.

The procedure was performed after local anesthesia, echo guided puncture of the right femoral vein. Super-selective catheterization was performed at the right and left adrenal veins. Selective samples were taken, at the level of the inferior vena cava subrenal also.

Table: Results of bilateral adrenal venous sampling for the patient. The ratio of adrenal vein cortisol to peripheral vein more than 10:1 indicates successful catheterization of the relevant veins. The lateralization ratio of 5:1 is consistent with a right adrenal adenoma.

Vein	Aldosterone (A) ng/dl	Cortisol (C) mcg/dl	A: C ratio	Aldosterone mcg/dl ratio*
Left adrenal vein	1405	2047	0,68	
Right adrenal vein	10545	2783	3,78	5:1
Peripheral vein	78	51	1,51	

\* Left adrenal A: C ratio divided by right adrenal vein A: C ratio

## Clinical Course:

He was referred for adrenalectomy, which was carried out laparoscopically. His blood pressure dropped and his serum potassium normalized, but he still needed treatment, although with less antihypertensive agents.

## Conclusion

In the absence of proper treatment, patients with hyperaldosteronism suffer from poorly controlled hypertension, which may be associated with increased rates of stroke, heart disease, and kidney failure. Delay in the diagnose of hyperaldosteronism may be fatal. Luckily it was not the case despite 30 years of undiagnosed Conn's Syndrome.