THE ADRENAL VENOUS SAMPLING (AVS) IS A DIFFICULT TEST IN THE LOCALIZATION OF THE PRIMARY HYPERALDOSTERONISM .

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INTRODUCTION AND OBJECTIVES

The localization of primary hyperaldosteronism is often difficult. The coexistence of nonfunctioning adenomas is common in patients older 40 years old and small adenomas undetectable by CT could confuse with bilateral hyperplasia. The AVS is considered the "gold standard" test for the location of numerous guides. We describe our experience in a clinical case of primary aldosteronism .

CLINICAL CASE

We present a 58 years old woman with refractory hypertension with quadruple therapy. Biochemical analysis showed a hypokalemic alkalosis and a hyporeninemic aldosteronism (aldosterone/plasma renin activity: 130). We discard renal artery stenosis by doppler ultrasound. CT shown a 16 mm nodule with low density and homogeneous in right adrenal, and other 23 mm nodule with high density and heterogeneous in the left adrenal .The patient was diagnosed of primary aldosteronism. We tried to locate the adrenal responsible with AVS by the following protocol. We suspended antihypertensive drugs with interference in angiotensin/ aldosterone axis . We administered 250 ug of ACTH iv 15 minutes before to stimulation . By sequential catheterization right femoral vein access we had baseline samples , at 30 ' and 45' in left adrenal vein (LAV), right adrenal vein (RAV), and inferior cava vein (ICV)We considered a conscious aldosterone/cortisol (A/C) > 4 between both adrenal veins as confirmation of lateralization .During the performance at 30 minutes was impossible to catheterize the right adrenal vein for collapse, so we end the test at this time. However we get a baseline ratio A/C adrenal left: A/C right adrenal (basal) of 18.47 (> 4) which confirms a left lateralization. No major complications, except controlled pain in inguinal region were observed. Finally the patient was operated by left adrenalectomy and the arterial pressure values were normalized without any treatment.

Fig 1: Protocol test

	BASAL	30'	45´
LAV	A (1)	A (7)	A (13)
	C (2)	C (8)	C (14)
RAV	A(3)	A (9)	A (15)
	C (4)	C (10)	C (16)
ICV	A (5)	A (11)	A (17)
	C (6)	C (12)	C (18)

A: aldosterone
C: cortisol
A/C: ratio aldosterone/cortisol

CONCLUSIONS

The AVS is considered the "gold standard" test for localization of adrenal adenomas. However is a invasive test, complex ,with complications, and requires a trained team. Furthermore there isn´t consensus in the test protocol and their interpretation . All this hinders their realization, however help to identify lateralization hyperaldosteronism, avoiding misdiagnosis, as in this case.

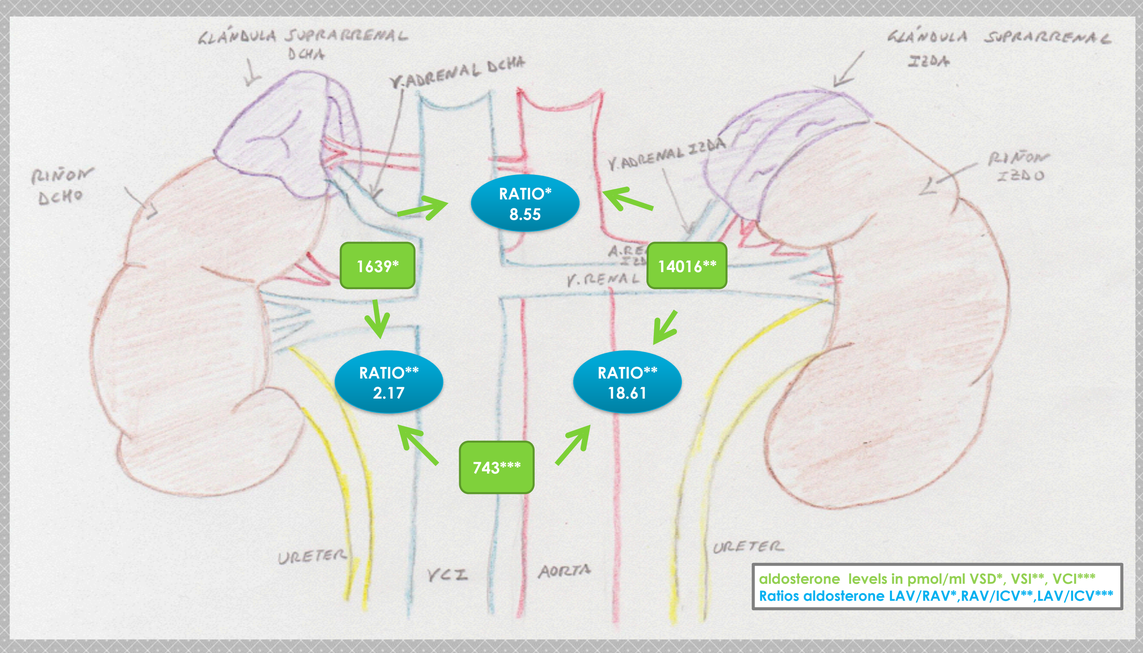
Fig 2: Analytics results

MUESTRAS	CORTISOL	ALDOSTERONE	RATIO A/C
LAV Basal	*670,44*	*14016,2*	***20,91***
RAV Basal	*1448,47*	*1639,84*	***1,13***
ICV Basal	*474,55*	*753,44*	*1,59*
LAV 30 min	*10456,61*	*66757*	*6,38*
RAV 30 min*	*939,83*	*1983,32*	*2,11*
ICV 30 min	*720,35*	*1488,87*	*2,07*

A/C adrenal left:A/C adrenal right (basal) 18,47
A/C adrenal left :A/C ICV (basal) 13,17
A/C adrenal right: A/C ICV (basal) 0,71

*** Sample in ICV in RAV level.**

Fig 3: Gradients relations



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