

VIDEOLAPAROSCOPIC UNILATERAL ADRENALECTOMY - CASE REPORT

Adriana de Freitas Fantinelli

Graduation in Medicine: Universidade
Federal do Rio de Janeiro. Resident Doctor at
the General Surgery Service of the Hospital
Federal do Andaraí, Rio de Janeiro

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Abstract: Excessive production of aldosterone by the adrenal cortex is the most common form of systemic arterial hypertension with curative potential. Excess aldosterone increases the risk of vascular events and end-organ damage when comparing patients with this pathology with those whose reason for hypertension is the essential one. **Clinical Case:** A 50-year-old female patient sought the service of the HUCFF (UFRJ) with a complaint of shortness of breath and difficulty in controlling arterial hypertension, diagnosed 15 years ago. In the last year, a persistent decrease in potassium (2.9 mmol/l) and an increase in serum aldosterone (215 mg/dl. Reference value: 1.8 to 23 mg/dl) were also observed, in addition to worsening congestive heart failure. **Planning:** A low-density thickening was identified on imaging in the left adrenal topography. Located in the lateral arm of the adrenal gland and measuring 23 mm, the finding was compatible with the hypothesis of adenoma. **Preoperative clinical support:** Venous diuretic therapy and optimization of other antihypertensive drugs, in addition to maintaining serum potassium levels. **Surgical technique:** Transperitoneal approach, with the patient in right lateral semi-decubitus position. Difficulty predictor: large number of bands due to previous cholecystectomy and cesarean section. After accessing the left adrenal region and removing the gland, the structure was referred for anatomopathological study. **Postoperative period:** good evolution, the patient did not need fludrocortisone to compensate for the expected decrease in endogenous corticosteroids.

INTRODUCTION

Conn 's syndrome, described in 1955, is characterized by the exaggerated production of aldosterone by the adrenal gland. Primary hyperaldosteronism is mainly associated with aldosterone-producing adenoma or bilateral

adrenal hyperplasia. In order to demonstrate the primary increase in serum aldosterone, the following are investigated: hypertension associated with spontaneous hypokalemia or associated with diuretic treatment; treatment-resistant hypertension (triple treatment and including a diuretic); adrenal incidentaloma; history of hypertension or cerebrovascular disease in close relatives under 50 years of age. When compared to conventional adrenalectomy, laparoscopic adrenalectomy is associated with shorter hospital stay, less use of analgesics, less bleeding, early oral diet initiation, superior aesthetic result, in addition to allowing the patient to return to work activities early, these are the reasons why this approach was planned for this patient.

CASE PRESENTATION

A 50-year-old female patient with congestive heart failure and difficulty in controlling blood pressure despite the use of different classes of antihypertensive drugs, in optimized doses, came to the Clementino Fraga Filho University Hospital, of the Federal University of Rio de Janeiro for investigation. diagnosis. After magnetic resonance imaging of the abdomen, a well-defined lesion with regular contours was observed, homogeneous, in the topography of the left adrenal gland:

Figure 1

In view of the suggestive image, the permanently low serum potassium level (K: 2.9 mmol/dl) and the increased aldosterone expressive serum, 215 mg/dl, (reference value: 1.8 to 23 mg/dl), the diagnosis of hyperaldosteronism was confirmed for adrenal adenoma left. the next stage consisted of preparing the patient clinically (diuretic therapy venous access, optimization of antihypertensive drugs and regulation of potassium levels) and plan the approach to the lesion.

Figure 2 / Figure 3 / Figure 4

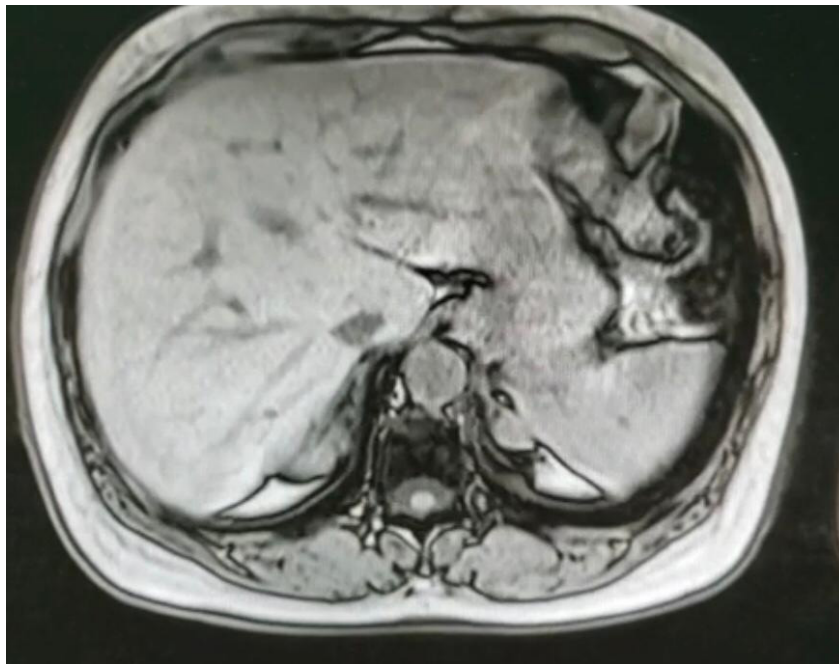


Figure 01: low-density thickening located in the lateral arm of the adrenal gland, measuring 23 mm, compatible with the clinical hypothesis of adenoma.



Figure 02: The transperitoneal border, with the patient in right lateral semi-decubitus position.

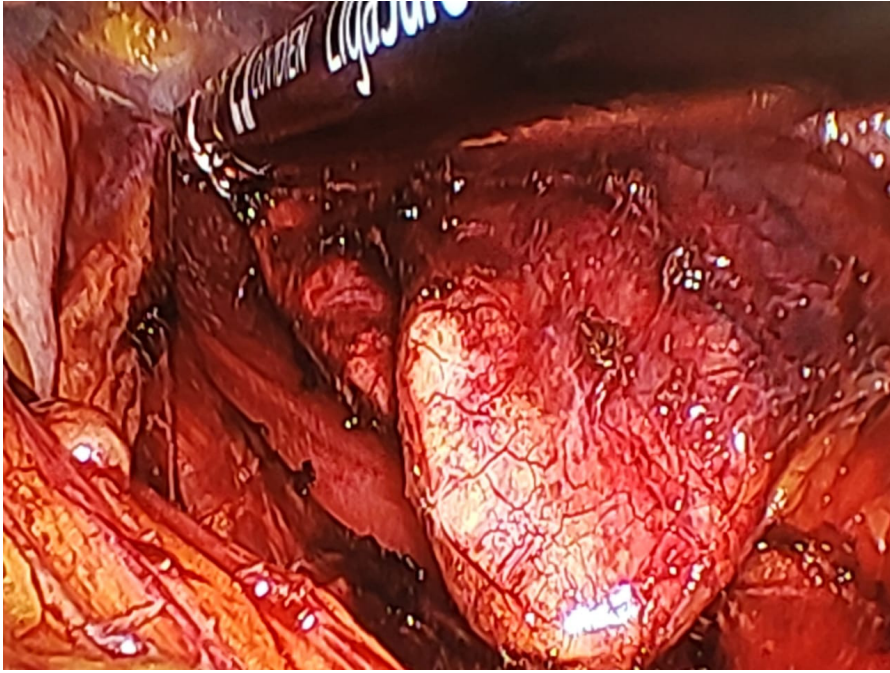


Figure 03: Identification of the left adrenal gland and its complete removal



Figure 04: anatomical part. Histopathological report: cortical adenoma + diffuse micronodular hyperplasia

The patient evolved satisfactorily after the procedure, without complications. There was no need for exogenous corticosteroids (fludrocortisone) to manage possible hypocortisolism. In a subsequent outpatient consultation, the cardiological condition was compensated, no longer requiring any antihypertensive medication for blood pressure control.

DISCUSSION

Systemic arterial hypertension is among the most prevalent pathologies in the world population. Primary aldosteronism is one of the main causes of this condition, characterized by uncontrolled hypertension with hypokalemia, affecting the renin-angiotensin-aldosterone axis and increased sodium reabsorption; consequently, there is an increase in blood pressure.

For this pathology, surgery implies the possibility of close to 100% control of hypertension with medication and a possibility of cure between 30-60%, with laparoscopic access being considered the gold standard today. Preoperatively, it is recommended to assess cardiac and renal function. Maintain the usual hypotensive treatment and low-sodium diet. When identified postoperatively, the following findings are considered curative: 1) decrease in systolic pressure to a value lower than 140 mmHg and diastolic pressure lower than 90 mmHg without taking antihypertensive drugs, and 2) if blood pressure decreases by 20 mmHg and the use of drugs decreases. It is important to emphasize that, during the postoperative period, exogenous corticosteroid supplementation may be necessary, with fludrocortisone being the corticosteroid of choice.

Despite being indicative of cure, normalization of blood pressure levels must not be the only objective in the management of patients with primary hyperaldosteronism.

It is known that mineralocorticoid receptors are present in the heart, brain and blood vessels, in addition to the kidney and colon. Aldosterone also induces myocardial fibrosis due to the stimulation of fibroblasts and fibrinoid necrosis. It is evident, therefore, that the benefit of a well-indicated surgical procedure goes beyond the treatment of hypertension itself, reaching immediate and future results of systemic aldosterone level compensation.

CONCLUSION

Through this work, the importance of in-depth investigation of the differential diagnoses of secondary arterial hypertension in patients with difficulty in pharmacological compensation becomes clear. Relegating responsibility for treatment failure solely to the patient's therapeutic adherence causes delays in the correct management of the problem. Laparoscopic adrenalectomy is shown to be a safe approach with lower morbidity and mortality when compared to the open technique. All planning stages (pre, peri and postoperative) are of equal importance for the success of the procedure, and the surgical stage, when properly indicated, is a key part in a sequence of decisions shared between doctor and patient.

REFERENCES

Schmiemann G, Gebhardt K, Hummers-Pradier E. Prevalence of hyperaldosteronism in primary care patients with resistant hypertension . *JABFP* 2012;1:98-103.

Monticone S, Burrello J, Tizzani D, Bertello C, Viola A, Buffolo F, Gabetti L, Mengozzi G, Williams TA, Rabbia F, et al. prevalence and Clinical Manifestations of Primary aldosteronism Encountered in Primary care Practice . *J Am Coll Cardiol* 2017. 69: 1811–1820.

Kebebew E, Siperstein AE, Duh QY. laparoscopic adrenalectomy : the optimal surgical approach. *J Laparoendosc Adv Surg Tech A*. 2001;11:409-13 .

J.Padilla -Pina, J.Arriaga -Aguilar, RAGarcía -Vásquez, A.Razo -Garcia, FEGarcia Martinez, J.Lopez -Chente -Casado, A.Zárate -Morales, I.Gerardo-Osuna, MCCandia -Plata, M .Garcia-Díaz, A.Vazquez-Galves, IEGarcia - López. Conn syndrome and its laparoscopic management. *Rev Mix Urol*. 2016;76(4):261---264

Ana Garcia-Vico, Jesus Cañete -Gómez, Jose Manuel Lorente-Herce . right adrenalectomy for Conn's Syndrome . *Annals of Mediterranean Surgery* 2020; 3 (1) 22-26 DOI: 10.22307/2603.8706.2020.01.007 ISSNe : 2603-8706