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HTA AND ADRENAL TUMORS ABOUT 12 CASES AND LITERATURE REVIEW

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Abstract:

Introduction: Thanks to the advanced imaging techniques and the advent oflaparoscopic surgery, the approach of hypertension due to adrenal tumor pathologyhas been known enormous progress.Materials and methods: This is a retrospective study having interested 12 casesof hypertension due to adrenal tumors, collected from visceral surgery service I at theMilitary Training Hospital Mohamed V of Rabat, over a period going from January 2010 until December 2017.

Objective: This work aims to shed light on this pathology, to analyze its epidemiological particularities and to detail the modalities of diagnostic and therapeutic management.

Results: In our series, the average age of our patients is 45 years, with a female predominance and a sex ratio of 1, 4.

Clinically-biologically: all patients were hypertensive with an average of 183 / 115mmhg, Menard's triad was present in 1 patient, with pain and gravity sensation of the right hypochondrium in 3 patients and sensation of right flank gravity in 1 patient only, however 58.3% (7 patients) were asymptomatic.

41.6% (5 patients) had hypokalemia at the time of diagnosis, while 58.4% (7 patients) had normal kaliemia. Hormonal secretion was found in 58.3% of cases.

Radiologically, abdominal CT was the most requested examination, performed in 10 patients and supplemented with MRI in 2 cases. The tumor size varies from 2.3 to 19 cm with an average of 7 cm.

MATERIEL AND METHODS

Type of study: This is a descriptive and comparative retrospective study. II-Framework of the study: She was led in the Visceral Surgery Department I of the Military Hospital of Instruction Mohammed V of Rabat. III- Period of the study: It took place over a period of 06 years, from 1 January 2010 to 31 December 2015. IV- Study population: 1- Inclusion criteria: Included in our study were all patients who were hospitalized for management of an adrenal tumor associated with hypertension and the results of which Paraclinical examinations or anatomopathological reports were in favor, and this during the period between January 2010 and December 2015. 2- Exclusion criteria: Incomplete or missing files were not retained.

RESULTS :

General and epidemiological characteristics:

1- Age: The age of our patients at the time of diagnosis ranged from 34 to 62 years, with an average age of 45 years.

2- Sex Our series consists of 07 women and 05 men respectively percentages of 58.3% and 41.7%. There is a female predominance with one sex ratio of women to men = 1.4 (7F / 5H).

3- Clinical presentation: -Functional signs: The main functional signs reported by our patients are: - Pain and feeling of heaviness in the right hypochondrium at 3 patients. - Menard triad in 1 patient. - Weight sensation of the right flank in 1 patient Physical examination : Ø Blood pressure All our patients presented an HTA at the clinical examination with an average 183 / 115mmhg. (Extremes 200 and 160 mmHg for the systole, 120 and 100 mmHg for diastole).

4 Biology:

Determination of potassium: All our patients have benefited from a serum potassium assay hypokalemia in 5 patients (41.6%) with values varying between 2.7 and 3.1 mmol / l (average = 2.98 mmol / l). Serum potassium was normal in 7 patients (58.4). · Dosage ratio of aldosterone / renin: - All our patients have benefited from a plasma aldosterone dosage high income in 3 cases with an average of 1021pmol / l. as well as a dosage plasma renin collapsed in 4 cases with an average of 18.75pg / ml. - The ratio of aldosterone to renin was high in 3 cases compared with the threshold value estimated at 23. Variant between 44.52 and 50.8 with an average of 47.88. · Cortisolic hypersecretion: - The cortisol cycle revealed hypercortisolemia at 08H in 2 cases, ie 16.66%. - Free cortisol urinaide (CLU): was elevated in only one case, to note that in this case the patient had a clinical Cushing's syndrome (ie 8.33%). · ATCH assay: Requested in 2 cases normal income.

5 Imaging:

Type of imaging: · Abdominal ultrasound: Performed in 4 cases (33.3%), for diagnostic purposes: - She highlighted the adrenal tumor in 3 cases (75%). - Was not conclusive in a single case (25%). In all cases, a CT or MRI complement was requested. · Abdominal CT: Achieved in 10 cases or 83.33%: - For the characterization of the individualized lesion on ultrasound in 4 cases (ie 40%). - From the outset in 6 cases (60%). Abdominal MRI: Realized in 4 cases or 41.6%: - In addition to CT or abdominal ultrasound in 2 cases or 50% cases. - From the outset in 2 cases or 50% of cases.

6- Therapeutic management: 7-1- Surgical indication: Surgical treatment was indicated in the 12 cases: - 8 patients or 66.7% received adrenalectomy. - 3 patients (25%) underwent block resection of the adrenal and ipsilateral kidneys.

7 Anatomopathology: The histological diagnosis was confirmed in the 12 cases on excision specimen after surgery. · Adenoma of Conn: Was the most common histological type in our patients, found in 4 cases (33.3%). · Malignant corticosalenaloma: Found in 3 cases (25%). · Pheochromocytoma: Found in 2 cases

DISCUSSION

'Primary hyperaldosteronism Hyperaldosteronism is defined by abnormal hypersecretion of aldosterone by the adrenal glands, either by an isolated and unilateral tumor of the glomerular zone of the adrenal cortex (Conn's adenoma), or by multiple unilateral or

bilateral nodular lesions (bilateral hyperplasia of adrenal). . , if primary hyperaldosteronism was classically considered a rare cause of hypertension, the series published in recent years indicate that its incidence is in fact not negligible and that nearly 5% of hypertensives would present this anomaly. However, the clinical form with a unilateral lesion that is surgically curable (the classic Conn adenoma) remains rare, accounting for only 1% of adrenal incidentalomas [1] and less than 1% of hypertensive patients [2]. Hyperaldosteronism hypertension should be suspected when hypokalemia (k <3.6 mmol / l) is present in untreated hypertensive patients or in subjects treated with drugs that usually enhance elevated serum potassium (ACEI or ARA2) . Since Conn's adenoma is usually small (<2 cm), and uni- or bilateral hyperplasia is associated with micronodular lesions (<0.5 cm), a complete adrenal all glands. The morphological diagnosis uses helical CT with injection of contrast medium (regular lesion, homogeneous, hypodense). MRI usually does not produce better results than the scanner. Noriodocholesterol scintigraphy (I-NP59) is not easily accessible and seems less efficient than CT for small lesions. When CT and MRI are insufficient to establish the diagnosis of lateralization of secretion, venous specimens with aldosterone and cortisol in the adrenal veins by selective catheterization are useful. The treatment varies according to the etiology. Surgery in principle, has no place in micro- or macronodular bilateral hyperplasias especially in bilateral forms.

L'Hypercorticisme

L'hypercorticisme d'origine surrénalienne autonome, appelé syndrome de Cushing, est cinq à six fois moins fréquent que la maladie de Cushing dont la sécrétion de cortisol par les surrénales est secondaire à un adénome d'origine hypophysaire. Son incidence est de 0,02-0,2 / 100 000 habitants par an (soit environ 60 nouveaux cas par an en France). Au niveau surrénalien, la lésion anatomique est un adénome isolé unique, une hyperplasie micro- ou macronodulaire, et parfois un carcinome. L'HTA est un élément du tableau clinique du syndrome de Cushing dans 68 à 80% des cas [3 4). Elle est rarement révélatrice et le diagnostic est plus souvent évoqué sur une obésité faciotronculaire, une faiblesse musculaire prédominant à la racine des membres inférieurs, un hirsutisme, ou une atrophie cutanée avec des vergetures. Un syndrome de Cushing dit «préclinique» peut être évoqué devant une prise de poids récente ou des troubles inhabituels des fonctions supérieures. Le diagnostic d'hypercorticisme est confirmé par le taux élevé du cortisol libre urinaire (CLU) et un cortisol plasmatique élevé avec une perte du rythme nocturne. L'origine du trouble est confirmée par l'observation d'une ACTH basse et d'un test de freinage du cortisol (administration par dexaméthasone) négatif. Le tableau biologique associe souvent une hypokaliémie (20%) dont l'importance est directement corrélée au risque de malignité de la tumeur surrénalienne. L'imagerie surrénale est fondée sur la réalisation d'un scanner et d'une IRM. La recherche d'une lésion hypophysaire et d'une néoplasie viscérale à l'origine de l'hypercorticisme conduit souvent à la réalisation d'un bilan préopératoire extensif.

Corticosteroalenoma

These tumors, which are very rare (0.02% of cancers), have an incidence of less than 0.1 / 100,000 inhabitants per year (ie a prevalence of 25 new cases per year in France). One in five (19%) patients are randomly identified by observation of an often large adrenal tumor on morphological examination [5]. If HTA is observed in half of the patients, the hormonal secretions promoting this hypertension are mixed (hypercorticism and / or hyperaldosteronism), and the association with clinical signs of virilization in women (or feminization in humans) make suspect at once the malignancy of the adrenal lesion. In the adrenocortical carcinoma, the tumor is usually large with a maximum diameter greater than 6 cm, heterogeneous, infiltrating, high density CT, often with calcifications, and not fixing to I-NP59 scintigraphy [6]. Only early exeresis can hope for a cure, secreting tumors being considered to be worse prognosis. Locoregional extension and metastatic evolution are frequent and early. The adrenocortical carcinoma that affects young people is a tumor with a very poor prognosis, the benefits of surgery on the control of hypertension being secondary to the oncologic prognosis.

Rare tumors, including DOC or 18-OH-DOC

tumors Certain adrenal tumors accompanied by a biological picture suggestive of hyperaldosteronism (hypokalemia, hyperkaliuresis, elevation of bicarbonates) show no elevation of aldosterone. There is no hypercorticism, but the dosage of renin is low. Further hormonal explorations are sometimes performed in front of an apparently non-secreting incidentaloma chart. If the precursors of aldosterone, deoxycorticosterone (DOC) or 18-hydroxycorticosterone (18-OH-DOC) are high, including elevated sex hormones, there is a fear of malignancy [7]. When the precursors of aldosterone are raised with an adrenal lesion greater than 3 cm in size, it is permissible to suggest adrenalectomy because there is always the fear of a corticosalenaloma. A smaller incidentaloma can be monitored by half-yearly CT scan to evaluate tumor progression, with specific medical treatment of primary hyperaldosteronism (spironolactone). Early surgery can also be discussed because it often helps to cure hypertension.

Diagnostic procedure

HTA is most often the telltale sign of the adrenal tumor, not the other way around. The initial biological assessment of an HTA should not include the determination of adrenal hormones. It is limited to simple samples: serum creatinine, serum potassium, and proteinuria. In case of difficult equilibration of hypertension or clinical evidence suggestive of an adrenal etiology, hormonal assays should be performed (urinary methoxyl derivatives, aldosteronemia, renin, urinary free cortisol). Adrenal imaging completes the assessment (helical scan, possibly MRI). If an adrenal lesion is identified and accompanied by anomalies of the hormonal balance, an adrenalectomy is proposed. On the other hand, if the adrenal lesion is small (<3 cm) or suggestive of a benign tumor with a normal hormonal balance, a CT scan may be offered six months later. In the case of a stable lesion at six months, morphological monitoring is no longer useful and can be considered as a coincidence with a nonsecreting "incidentaloma". The anti-HTA treatment must be adapted to allow control of the voltage. If the lesion has increased in size or if HTA is particularly well controlled by a specific treatment of primary hyperaldosteronism (spironolactone), an adrenalectomy may be proposed.(8)

REFERENCES

[1]: Ostchega Y, Yoon SS, Hughes J, Louis T.Hypertension awarness, treatment, and control-continued disparities in adults : United States, 2005-2006. NCHS Data Brief 2008 ; 3 :1-8.

[2]: Mancia, G., et al. , 2013 ESH/ESC Guidelines for the management of arterial hypertension: the Task Force for the management of arterial hypertension of the European Society of Hypertension (ESH) and of the European Society of Cardiology (ESC). J Hypertens, 2013. 31(7): p. 1281-357.

[3]: Tazi M A, Abir-Khalil S, Chaouki N, Cherqaoui S, Hahmouz F, Srairi JE et al. Prevalence of the main cardiovascular risk factors in Morocco: results of a National Survey, 2000. Journal of Hypertension. 2003;21(5):897-903.

[4]: A.Lorthioir, C.Rafat, L.Amar, G.Bobrie, M.Azizi; Hypertension associée aux sténoses de l'artere renale et aux atteintes rénales parenchymateuses 2015.

[5]: Laurence Amar, Aurélien Loithioir, Alessandra Giavarini, Pierre-François Poulin, Michel Azizi. Hypertension artérielle d'origine surrénale : reconnaitre, évaluer et prendre en charge.Presse Med. 2014 43 : 420-427.

[6]: M.Mathonnet. Managemant of adrenal incidentaloma combined with high blood pressure. Annales de chirurgie 130 (2005) 303-308.

[7]: Kendrick M.L., Lloyd R., Erickson L., Farley D.R., Grant C.S., Thompson G.B., and al. Adrenocortical carcinoma: surgical progress or status quo Arch. Surg. 2001 ; 136 : 543-549

[8]: C. Hoang. Anatomie, embryologie et histologie de la surrénale. Encyclopédie médico-chirurgicale. (Elsevier, Paris), endocrinologie- nutrition, 10- 014- A- 10, 1996, 5p.