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The Erectile Dysfunction among Congolese Hypertensive Patients

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Abstract

The authors conducted an analytical cross-sectional study over a period of 3 months among hypertensive patients, in order to determine the frequency of the erectile dysfunction (ED), and to identify the predictive factors. It included treated hypertensive patients, presenting an ED, defined as the incapacity to obtain or maintain an erection sufficient for satisfactory sexual activity. On 265 hypertensive patients, 172 (65%) presented an ED. The average age was 58.2 ± 9.7 years. The associated cardiovascular risk factors were overweight/obesity in 99 cases (37.4%), sedentariness in 90 cases (34%), diabetes mellitus in 50 cases (19%), dyslipidemia in 12 cases (4.5%), and tobacco addiction in 6 cases (2.3%). Arterial hypertension (HTN), old of 6.7 ± 5.8 years, was treated by bitherapy in 129 cases (48.7%), and tritherapy in 102 cases (38.5%). The principal therapeutic classes used were ACE inhibitors/ARBs in 213 cases (81%), calcium antagonists in 205 cases (78%), thiazides in 137 cases (52.1%), and beta-blockers in 82 cases (31%). ED, severe in 124 cases (72%), and moderate in 48 cases (28%), consisted of a difficulty to maintain the erection in 78 cases (45.3%), to obtain the erection in 30 cases (17.4%), and the two partners in 64 cases (37.2%). In multivariate analysis, only the age, seniority of HTN, and the existence of diabetes mellitus were the predictive factors of ED. The early and effective assumption of responsibility of the AHT, as well as other cardiovascular risk factors whose diabetes, would make it possible to reduce the frequency of it, thus improving quality of life of the hypertensive patients.

Keywords

Arterial Hypertension, Erectile Dysfunction, Frequency, Predictive Factors, Congo

1. Introduction

Arterial hypertension (HTN) is a major cardiovascular risk factor, and constitutes true public health problems in the world, concerning close to the 1/3 of the population adult, and responsible for roughly 7.6 million annual deaths [1] [2]. Pathology with chronic evolution, it poses problems of the management to the long course because of the serious complications, and the side-effects of the antihypertensive drugs, with a negative impact on the adherence medication, and an increased risk of abandonment [3]. The association HTN and erectile dysfunction (ED) is frequent, and constitute a major concern for the experts, because of the deterioration of the quality of life of the patients [4] [5] [6]. In sub-Saharan Africa, few studies were brought back on the subject [7] [8]. In Congo, this preliminary study targeting at improving the management of the hypertensive patients aimed to determine the frequency of ED in the HTN, and to identify the predictive factors of ED.

2. Patients and Methods

It was about an analytical cross-sectional study with a prospective data collection, carried out in the unit of external consultations of the service of cardiology and internal medicine of the University Hospital of Brazzaville. It was held from May 1st to July 31st, 2015 (either three months). It included a consecutive series of hypertensive patients known and treated, followed into ambulatory, presenting one ED, defined as the incapacity to obtain and/or maintain an erection effective for a satisfactory sexual activity. The score of the International Index on the Erectile Function (IIEF) [9] allowed evaluating the degree of severity of ED. For a normal value ranging between 25 - 21, ED was known as light between 20 - 16, moderate between 15 - 10, and severe between 10 - 5. On the whole 265 patients were included. The variables of the study were:

- sociodemographic: frequency, age, matrimonial status and the standard statute of the union (unmarried, married, divorced, widowed, monogamist, polygamous), educational level (any, primary, secondary, superior), socioeconomic level (weak, average, high) according to ECOM [10];

- associated cardiovascular risk factors (diabetes mellitus, dyslipidemia, tobacco addiction, overweight/obesity, sedentariness);

- bound to the HTN: seniority, complications, therapeutic classes (angiotensin-converting enzyme inhibitors [ACEi], angiotensin receptor blockers [ARBs], calcium antagonists [CA], beta-blockers [BB], thiazides [Diu], spironolactone, centrally acting drugs, others) and antihypertensive protocols used;

- bound to ED: IIFE-5 score, nature of the disorder, starting factors, received treatments (phosphodiesterase-5 inhibitors [PDE-5i], intra-cavernous injection, herb tea).

The data were treated and analyzed with Epi-info 3.5.3 software. Chi-square and ANOVA tests allowed the comparison of the qualitative and quantitative variables. The research of the predictive factors of ED was done using a logistic

regression. The significance level was $p < 0.05$.

3. Results

3.1. Epidemiological Trends

Of the 265 patients, 172 presented an ED, that is to say, a frequency of 65%. The median age of the patients was 58.2 ± 9.7 years (range: 33 and 83 years). They were monogamists in 188 cases (71%), polygamous in 42 cases (15.8%), and single people in 30 cases (11.3%). The patients had a superior educational level in 162 cases (61.1%), and an average socioeconomic level in 179 cases (67.7%). The associated cardiovascular risk factors were overweight/obesity in 99 cases (37.4%), sedentariness in 90 cases (34%), diabetes mellitus in 50 cases (19%), dyslipidemia in 12 cases (4.5%), and tobacco addiction in six cases (2.3%). The main characteristics of the study population are consigned in Table 1.

Table 1. Characteristics of the study population.

	Patients (N = 265)
Mean age, years	**58.2 ± 9.7 (33 - 83)**
Seniority of hypertension, years	**6.7 ± 5.8 (1 - 30)**
Familial hypertension, n (%)	183 (69.3)
***Complications of hypertension, n* (%)**	
- any	207 (78)
- heart failure	23 (8.7)
- renal insufficiency	15 (5.7)
- stroke	15 (5.7)
- coronary artery disease	5 (2)
***Matrimonial status, n* (%)**	
- monogamist	188 (71)
- polygamous	42 (15.7)
- single people	30 (11.3)
- widowed	5 (2)
***Educational level, n* (%)**	
- any	3 (1.1)
- primary	28 (10.6)
- secondary	72 (27.2)
- superior	162 (61.1)
***Socioeconomic level, n* (%)**	
- weak	70 (26.5)
- average	179 (67.5)
- high	16 (6)
***Associated cardiovascular risk factors, n* (%)**	
- overweight/obesity	99 (37.1)
- sedentariness	90 (34)
- diabetes mellitus	50 (19)
- dyslipidemia	12 (4.5)
- tobacco addiction	6 (2.3)
***Antihypertensive protocol, n* (%)**	
- monotherapy	18 (6.8)
- bitherapy	129 (48.7)
- tritherapy	102 (38.5)
- quadritherapy and more	16 (6)

3.2. Antihypertensive Treatment

The HTN, old of 6.7 ± 5.8 years, was treated by bi-therapy in 129 cases (48.7%), tri-therapy in 102 cases (38.5%), monotherapy in 18 cases (6.8%), quadri-therapy and more in 16 cases (6%). The principal therapeutic classes used were ACEi/ARBs in 213 cases (81%), calcium antagonists in 205 cases (78%), thiazides (Diu) in 137 cases (52.1%), and beta-blockers in 82 cases (31%). Associations ACEi/ARBs + CA and ACEi/ARBs + Diu were used, in respectively 41% and 27% of the cases.

3.3. Erectile Dysfunction and Predictive Factors

ED was lighter in 48 cases (28%), moderate in 84 cases (48.8%), and severe 40 cases (23.2%). The disorder, of brutal installation in 20 cases (11.6%) and progressive in 152 cases (88.4%), consisted of a difficulty to maintain an erection in 78 cases (45.3%), to obtain an erection in 30 cases (17.4%), and mixed in 64 cases (37.2%). The variability of the disorder was noted among 68 patients (39.8%), and 103 patients (60%) had lost spontaneous erections. The beginning of antihypertensive treatment, stress, marital problems, and financial problems were identified as factors starting of ED in respectively 23%, 22%, 8.2% and 7.6% of the cases. Concerning the treatment, 115 patients (66.8%) had not received any treatment, 28 (16.2%) an herb tea, 27 (15.7%) a PDE-5 inhibitor, and 2 (1.1%) an intra-cavernous injection. In bivariate analysis, it was not noted of a link between the antihypertensive drugs and ED, in particular with the beta-blockers ($p = 0.44$) and the thiazide diuretics ($p = 0.22$). However, a link was noted between ED and diabetes mellitus ($p = 0.03$), as well as sedentariness ($p = 0.02$). In multivariate analysis, only the age ($p = 0.0001$), the seniority of HTN ($p = 0.0179$), and the existence of a diabetes mellitus ($p = 0.0187$) were observed as predictive factors of occurred of ED. Table 2 gives the results of the logistic regression.

4. Discussion

The erectile dysfunction (ED) is a frequent comorbidity during arterial hypertension (HTN), as noted in our study at more half of the patients, with various degrees of severity. In the literature, its prevalence is very variable, between 40

Table 2. Logistic regression of erectile dysfunction.

Variables	OR (IC 95%)	p
Age (years)	**1 06 (1.03 - 1.09)**	**0.0001**
Seniority of hypertension (years)	**0.94 (0.89 - 0.98)**	**0.0179**
Complications of hypertension (yes/no)	1.24 (0.61 - 2.51)	0.5529
Diabetes mellitus (yes/no)	**2.65 (1.17 - 5.98)**	**0.0187**
Dyslipidemia (yes/no)	1.0 (0.26 - 3.92)	0.989
Sedentariness (yes/no)	1.72 (0.87 - 3.39)	0.1178
Overweight: obesity (yes/no)	1.32 (0.67 - 2.58)	0.4137

and 90% according to the series, and it is higher among patients with cardiovascular risk factors (HTN, diabetes, obesity, dyslipidemia) or overt cardiovascular disease (coronary artery disease, heart failure, stroke) [11] [12] [13] [14] [15]. Indeed, during these cardiovascular pathologies, ED can, in some case, to pre-exist before occurred of the cardiovascular event, and others, to occur with the waning of the event, in varying proportions according to the nature of the event [16]. It was shown in this first case of the figure that the percentage occurred of cardiovascular events increased in a way proportional to the seniority of ED [16]. Concerning the HTN, it is known that the prevalence of being more important among hypertensive patients, a fortiori at those treated, compared to the none hypertensive subjects [17]-[24], and this whatever is the degree of severity [24]. Of psychogenic or organic origin, ED among hypertensive patients can be various mechanisms [15]. Indeed, if atherosclerosis, by the means of HTN and associated other risk factors seems to play a paramount role, the harmful effect of the antihypertensive agents is not to ignore [25] [26] [27] [28] [29]. Thus, among the antihypertensive drugs, it was shown that certain have a noxious role in occurred of ED, such is the case of the centrally acting drugs, thiazides, spironolactone, and the old beta-blockers. On the other hand, other antihypertensive agents have a neutral effect (ACEi, calcium channel blocker) or even positive effects beneficial (ARBs, vasodilating beta-blockers such as the nebivolol) on the erectile function [30] [31]. In our series, it was not noted of the link between the antihypertensive drugs used and occurred of ED; relatively weak sample size and the short time of the study period can be the explanation about it. The progressive mode of installation of the disorder of erection, the loss of spontaneous erections, and the coexistence of other risk factors of atherosclerosis raised at the majority of our patients, plead for an organic origin. The advent of the PDE-5 inhibitors revolutionized the management of the patients suffering from ED, and the latter occupies a choice place in the algorithms proposed by the learned societies, like drugs of the first line in all types of ED [32] [33]. In addition to their beneficial effect on the improvement of the quality of life of the patients, this therapeutic class also contributes to improving medication adherence of antihypertensive drugs [34] and leaving a better blood pressure level control [35]. In our series, the still frequent recourse to the alternative treatments such as herb teas, and the weak use of the PDE-5 inhibitors constitute an obstacle with the optimal management of the hypertensive patients suffering from ED in our context.

5. Conclusion

It comes out from this study that the erectile dysfunction is a frequent comorbidity among hypertensive patients. It is about a pathology little known, underestimated, and undertreated in this population, where arterial hypertension plays a paramount role in its occurred, but also certain antihypertensive drugs. The early tracking of, the effective management of arterial hypertension and as-

sociated cardiovascular risk factors, the rational use of the PDE-5 inhibitors will contribute to improving to become to it patients; from where the need for a multi-field collaboration associating cardiologists and uro-andrologists.

Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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