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Hypertension in Internal Medicine

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Abstract

Introduction: Hypertension is a major cause of disability and the leading risk factor for death worldwide. **Objective**: To study arterial hypertension in the internal medicine department of the CHU du Point G. **Methodology:** We carried out a cross-sectional, descriptive and analytical study with retrospective 5-year recruitment from January 01, 2018 to December 31, 2022 in the internal medicine department of the CHU du Point G. Inpatient records were reviewed. Inpatients with de novo and old-onset hypertension were included during hospital follow-up. **Results:** During the course of the study, 1632 patients were hospitalized, 321 of whom were hypertensive and included in the study, representing a hospitalization rate of 19.67%. The age range [60 - 70] represented 33.6%, with extremes of 18 and 92 years and a mean age of 61.43 ± 12.52 years. The sex ratio was 0.69. They had a history of hypertension in 96.9% of cases, followed by diabetes in 29.3%. Risk factors associated with hypertension were dominated by age (58.9%), diabetes (51.7%) and sedentary lifestyle (49.8%). Complications of hypertension were stroke 14.6%, obliterative arteriopathy of the lower limbs 12.8%; hypertensive heart disease 9.9%; coronary syndrome 4.7%; hypertensive retinopathy stage I and II 3%; and chronic renal failure 4.9%. High cardiovascular risk in 67%. Patients on dual antihypertensive therapy were better controlled than those on monotherapy, with no statistically significant difference (p = 0.39). **Conclusion:** Hypertension is very often associated with other cardiovascular risk factors, including age and diabetes. It can have formidable complications if not properly controlled.

Keywords

Hypertension, Internal Medicine, University Hospital Point G

1. Introduction

Hypertension is a major cause of disability and the leading risk factor for death worldwide. In 2022, hypertension was consensually defined as systolic blood pressure greater than or equal to 140 mmHg and/or diastolic blood pressure greater than or equal to 90 mmHg, recorded on at least 2 measurements, repeated during at least 2 to 3 consultations spaced 2 or 3 months apart [1]. According to the new 2023 guidelines, this period has been reduced to 1 to 4 weeks, depending on blood pressure level and cardiovascular risk [2].

According to the World Health Organization, 1.28 billion people worldwide between the ages of 30 and 79 have high blood pressure, two-thirds of whom live in low- and middle-income countries. Some 46% of adults with high blood pressure are unaware of their condition. Less than half of adults (42%) with high blood pressure are diagnosed and treated. Hypertension is one of the world's leading causes of premature death, which is why one of the global targets for non-communicable diseases is to reduce the prevalence of hypertension by 33% between 2010 and 2030. The prevalence of hypertension varies according to the economic level of countries and regions. According to the World Health Organization, prevalence is highest in Africa, at 27% [3].

In France in 2023, an estimated 30% of people over 50 will be hypertensive [4]. In the Democratic Republic of Congo, a study estimated the prevalence of hypertension at 20% [5].

In Burkina Faso, the prevalence of hypertension is on the rise. According to the Steps survey, the burden of hypertension in the country among people aged 18 to 69 was 17.6% in 2013, compared with 18.2% in 2021 [6]. Another more recent survey in 2021 indicated a slightly higher prevalence of 18.2% in the same age groups [7] [8].

In Côte d'Ivoire, the prevalence of arterial hypertension (AH) varies from study to study, with one survey in 2020 estimating it at 20.4% in subjects over 18 years of age [9].

In Mali, hypertension is a public health problem, and its prevalence varies according to the studies and populations studied, with one study estimating it at between 20.83% and 39.4%, with no apparent influence of ethnic origin [10]. Adult hypertension in our department has been little investigated, hence the interest of our study.

2. Objective

To study arterial hypertension in the internal medicine department of the Point G University Hospital.

3. Methodology

We carried out a descriptive cross-sectional and analytical study with retrospective recruitment of data over 5 years from January 01, 2018 to December 31, 2022 in the Internal Medicine Department of Point G University Hospital. It focused

on the records of patients hospitalized in the department. Sampling was purposive, including all hospitalized patients with a diagnosis of hypertension. The variables studied were sociodemographic aspects (age, sex, profession); clinical data (patient history, vitals, functional signs, physical examination); paraclinical data, which included examinations performed on the patients included and examinations according to clinical orientation.

Data entry and analysis were performed using Pack Office 2019 SPSS version 2020. Word processing and tables were created using Microsoft Office Word and Excel. Chi-square (Khi 2) was used to compare variables, with a significance threshold if $P < 0.05$. The information in each file was completely confidential.

4. Results

During the study, 1632 patients were hospitalized, 321 of whom were hypertensive and included in the study, representing a hospital frequency of 19.67%. The age range [60 - 70] represented 33.6%, with extremes of 18 and 92 years and a mean age of 61.43 ± 12.52 years. The sex ratio was 0.69. Housewives accounted for 45.9% of cases.

Our patients had a history of hypertension in 96.9% of cases, followed by diabetes in 29.3%. Cardiovascular risk factors associated with hypertension were age 58.9%, diabetes 51.7%, sedentary lifestyle 49.8% and gender 34,9%. The duration of hypertension was between 1 and 5 years (34.1%), and over 10 years (20%). Our patients were on antihypertensive medication in 81% of cases at admission. Monotherapy was used in 45.8%, dual therapy in 24.6% and triple therapy in 9.2%, with calcium channel blockers in 59.1% and ACE inhibitors in 35.1%. Hypertension was controlled in 44.2% of patients on admission.

Complications of hypertension were stroke 14.6%, obliterative arteriopathy of the lower limbs 12.8%; hypertensive heart disease 9.9%; coronary syndrome 4.7%; hypertensive retinopathy stage I and II 3%; and chronic renal failure 4.9%. Cardiovascular risk was high at 67%, according to Framingham. At discharge from hospital, all our patients were on a low-salt diet, 31.8% were on antihypertensive monotherapy, 24.3% on dual therapy and 9.6% on triple therapy, 41.1% with calcium channel blockers and 25.9% with converting enzyme inhibitors.

Blood pressure was better controlled at discharge than at admission: 59.8% versus 44.2%.

This control was more visible in patients aged 65 and over, with no statistically significant difference ($p = 0.975$). Patients on monotherapy were less controlled than those on dual therapy, with no statistically significant difference ($p = 0.39$).

5. Comment and Discussion

During the course of our study, we were confronted with a number of difficulties, including poorly completed, incomplete and poorly preserved records.

During the survey, 1,632 patients were hospitalized, including 321 cases of arterial hypertension. This represents a hospital frequency of 19.67%. Our results

differ from those of Bâ [11], with a higher frequency than ours. This can be explained by the fact that Ba's study site is a specialized cardiology department.

The 60 - 70 age group accounted for 33.6% in our study, with extremes of 23 and 95 years and an average age of 61.43 ± 12.52 years (**Figure 1**).

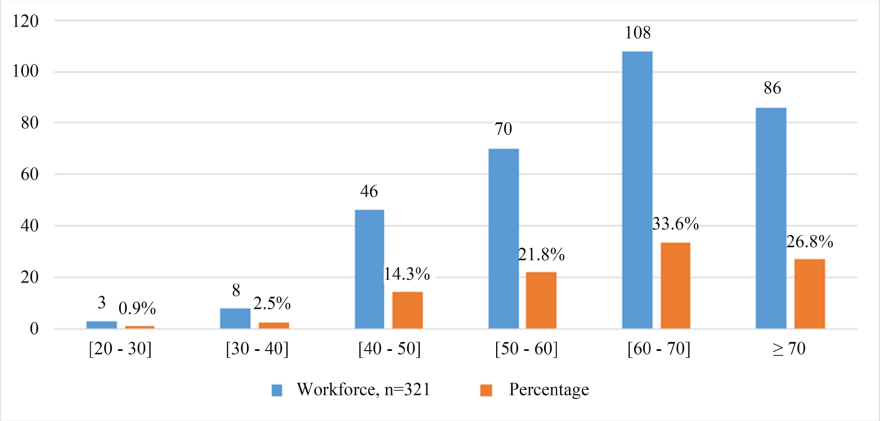

Figure 1. Distribution of patients by average age.

This age range was similar to that of Bundy [12], who found a proportion of people aged 60 and over of 63.5%. His data are in line with the literature [2].

Women accounted for 59.2% of cases, with an M/F sex ratio of 0.69. This result is similar to Yao. H [13] where the sex ratio was 0.66 and Ni [14] with 55.9% women.

Cardiovascular risk factors were dominated by age (58.9% of cases) and diabetes (51,7%). According to WHO 2023 data, age can increase the risk of hypertension [3] (**Figure 2**).

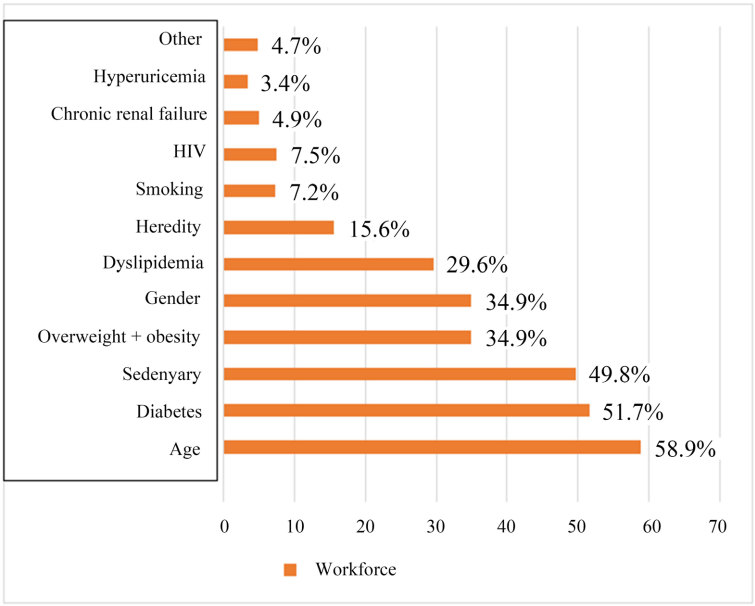

Figure 2. Distribution of patients according to associated risk factors.

The Framingham cardiovascular risk estimate in our study showed that 67% of patients were at high risk. Our results are similar to those of Syllos [15], who found 64% of hypertensive patients to be at high cardiovascular risk, and Yaméogo [16], who found 44.7% to be at high cardiovascular risk. This high level of risk is explained by the co-occurrence of cardiovascular risk factors.

The most frequent complications of hypertension in our patients were neurological, including ischemic stroke in 13.4% of cases, followed by cardiovascular complications, including obliterative arteriopathy of the lower limbs in 12.8% of cases (**Table 1**). These results are in line with those of the French Health Authority [17].

Table 1. Distribution by complications of hypertension.

Complications		Workforce (n = 148)	Percentage
Cardiovascular	Obliterative arteriopathy of the lower limbs	41	12.8
	Hypertensive cardiomyopathy	32	9.9
	Atherosclerotic plaque of the supra-aortic trunks	21	6.5
	Myocardial infarction	15	4.7
	Heart failure	6	1.9
	Other	3	0.9
Renal	Chronic renal failure	16	4.9
	Benign nephroangiosclerosis	2	0.6
	Néphroangiosclérose maligne	1	0.3
Neurological	Ischemic stroke	43	13.4
	Hemorrhagic stroke	4	1.2
	Leucoencephalopathy vascular	3	0.9
Digestifs	Abdominal aortic aneurysm	1	0.3
	Splenic artery aneurysm	1	0.3
Eyepieces	Rétinopathy stade I de Kirkendall	5	1.5
	Rétinopathy stade II Kirkendall	4	1.2

Blood pressure was better controlled at discharge than at admission: 59.8% versus 44.2%.

Patients on monotherapy were less controlled than those on bitherapy, with no statistically significant difference (p = 0.39) (**Table 2**).

Table 2. Relationship between antihypertensive therapy and control of hypertension.

Type of antihypertensive therapy	Controlled high blood pressure		Total	RR
	Yes (%)	No (%)		
Dual therapy and more	61 (55.4)	49 (44.6)	110 (100.0)	1.39 [0.69 - 1.15]
Monotherapy	51 (51.0)	48 (49.0)	99 (100.0)	0.89 [0.69 - 1.15]
Total	112 (53.6)	97 (46.4)	209 (100.0)	

6. Conclusion

Hypertension is very often associated with other cardiovascular risk factors, including age and diabetes. It can give rise to formidable complications if not properly controlled. It is particularly well controlled in subjects on dual antihypertensive therapy.

Conflicts of Interest

The authors declare no conflict of interest.

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