

Qualitative analysis of hypertension medical treatment in the elderly population living in a nursing home in France

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INTRODUCTION

Several studies have shown that hypertension treatment of the elderly patient over 80 years of age could reduce cardiovascular events such as stroke mortality, overall mortality and heart failure [1]. It is therefore appropriate to treat hypertension in patients older than 80 years. In this population, the objective is a systolic blood pressure (SBP) less than 150 mmHg, since a decrease of 20 to 30 mmHg compared with initial SBP is already a significant benefit in terms of morbidity in patients with SBP greater than 180 mmHg [2]. In elderly hypertensive patients, a decrease of SBP below 140 mmHg has not clearly shown a benefit [3]. According to experts, antihypertensive therapy in the elderly should not include more than 3 antihypertensive drugs. In case of high blood pressure (>20/10 mmHg above the recommended therapeutic target), dual therapy may be prescribed at the beginning, including thiazide diuretic. The first-line treatment in elderly patients with systolic hypertension is a thiazide diuretic at low doses or dihydropyridine calcium channel blocker [2]. The objective of this study is to describe hypertension medical treatment in nursing home.

METHOD

This is an observational study conducted in a french nursing home in Loire-Atlantique. A descriptive analysis of 76 prescriptions of residents of this nursing home was performed. A descriptive analysis of the population of the study (age, gender, history of hypertension) was conducted, as well as a descriptive analysis of antihypertensive treatments in these patients (number of lines per prescription, pharmacotherapeutic classes prescribed for hypertension in patients with hypertension history, dose schedule).

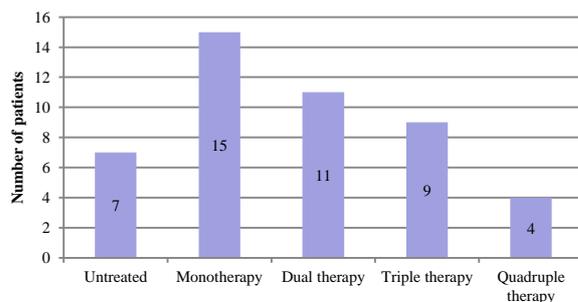
RESULTS

• Description of the population of the study

Among the 76 prescriptions, there were 55 women and 21 men with an average age of 86.84 (\pm 5.86 years). Of these patients, 46 (60.5%) had a documented hypertension history and among the other 30 patients, 17 of them (22.4%) were treated with antihypertensive drugs (table 1). In 36 patients (46%), blood pressure was measured by their general practitioner and was not recorded in the transmission file.

• Description of prescribed antihypertensive drugs

Of the 46 patients with hypertension history, 39 had antihypertensive therapy. The number of antihypertensive drugs ranged from 0 to 4 with a median of 2 (graph 1). The different therapeutic classes prescribed in these patients are detailed in graph 2. Overall, 80 antihypertensive molecules were prescribed in 39 patients. Among patients with monotherapy (n = 15), 3 received a thiazide diuretic and 7 received a calcium channel blocker. Among patients treated with dual therapy or more (n = 24), 12 received a thiazide diuretic and 11 received a calcium channel inhibitor.



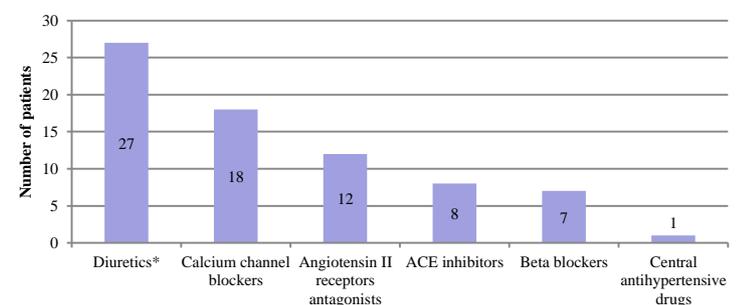
Graph 1: Number of prescribed antihypertensive drugs in patients with hypertension history (n = 46)

• Description of dose schedule

Among the 80 prescribed molecules, 61 drugs were administered in the morning, 19 in the evening and 2 at noon (two drugs were administered twice a day). In 8 patients, the intake of each antihypertensive drug was distributed at different times of day (morning and evening for 6 patients; morning, noon and evening for one patient; morning and noon for one patient). In other patients (n = 31), the intake of these drugs was only in the morning (n = 26) or in the evening (n = 5). 24 of the 80 molecules belong to a brand of a fixed combination, reducing the number of effective consumption of tablets.

Table 1: Characteristics of the population of the study

	Men (n=21)	Women (n=55)	Total (n=76)
Median age in years (extreme)	87 (57-98)	88 (76-99)	88 (57-90)
Median number of lines per prescription (extreme)	7 (2-12)	6 (0-14)	6 (0-14)
Number of patient with a previous hypertension history noted on the transmission file	10	36	46
Number of treated patients with a previous hypertension history	9	30	39
Number of treated patients without previous hypertension history	8	9	17
Number of untreated patients with a previous hypertension history	1	6	7
Number of untreated patients without previous hypertension history	3	10	13



Graph 2: Therapeutic classes prescribed in patients with hypertension history (n=39)

*There were 34 diuretics prescribed for 27 patients (7 patients being treated with two diuretics). The diuretics most commonly found were furosemide (n = 14) and thiazide diuretics (hydrochlorothiazide n = 12 and altizide n = 1).

DISCUSSION - CONCLUSION

In this study, the most prescribed drug classes were diuretics and calcium channel blockers and 67% of the patients were treated with monotherapy or dual therapy. Ten of 15 patients with monotherapy were treated with a thiazide diuretic or a calcium channel blocker such as recommendations stipulated. In addition, half of the patients with dual therapy or more are treated with thiazide diuretic often included in a fixed association. A third of patients (half of patients with diuretics) are treated with furosemide. According to the recommendations, furosemide is used in hypertension complicated by heart failure or chronic renal failure and should not be used in isolated hypertension [1]. We didn't have blood pressure or creatinine clearance values, it is unclear whether furosemide is prescribed according to these recommendations. The notification of blood pressure and clearance creatinine values in transmission file is essential in order to perform optimal monitoring. In March 2011, the French National Authority for Health proposed new measures, including those for cardiovascular drugs (confirmation of prescription in the case of three or more antihypertensive drugs and confirmation of prescription in the case of two or more diuretics). It is essential to treat hypertension in the elderly and very old patients, in order to maintain their quality of life. A close monitoring of these treatments should be performed because of their hypotension risk and associated falls. Taking into account the particularities of each patient, it is sometimes necessary to adequately 'unprescribe' and sometimes 're-prescribe' with greater efficiency. This initial study should be extended to other nursing homes and training programs should be implemented to improve proper use of drugs in the treatment of hypertension in the elderly.

References:

- Beckett, N. S. et al. Treatment of Hypertension in Patients 80 Years of Age or Older. *New England Journal of Medicine* 358, 1887–1898 (2008).
- Bouhanick B. Hypertension artérielle du sujet âgé : après la publication du consensus américain d'experts de l'ACCF/AHA, quelles recommandations de prise en charge thérapeutique ? *Médecine thérapeutique*. 2011; 17(3):234-43
- Le nouveau « 2009 ESH Task Force document » : relecture critique des recommandations 2007. www.consensus-online.fr/?Le-nouveau-2009-ESH-Task-Force