

Side Effects of Antihypertensive Medicines and how they Influence the Quality of Treatment

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INTRODUCTION-AIM

Hypertension is one of the major risk factors for cardiovascular disease and the most important risk factor for cerebrovascular disease. In spite of this, only a minority of hypertensives have well controlled hypertension. Uncontrolled hypertension is attributed mainly to poor compliance with long term antihypertensive treatment (1). Side effects of antihypertensive medicines are quite common and influence compliance negatively (2,3,4,5,6,7).

The aim of this study was to assess the side effects of antihypertensive medicines in a Greek hypertensive population and to find out to what extent they interfere with the quality of antihypertensive treatment.

METHODS

We surveyed 1000 (from 1380 screened) consecutive patients taking antihypertensive drugs that were hospitalized in a clinic of general surgery and vascular surgery of a University Hospital from January 1997 to December 1999. We did not include in the study people over 80 years old, those who had a mental disorder and those with a history of or evidence of malignancy. Decision to exclude was based on the history taking from the patients and on the observations of the interviewer. Data collection was obtained through structured interviews using precoded questionnaires administered by the same doctor. The questionnaire included among others questions

on demographic information, on current and previous antihypertensive regimen, on side effects associated with antihypertensive medicines, on patient compliance to treatment.

All recorded data were transferred to a PC media and analysed using the Statistical Package for Social Sciences (SPSS) software. X² test was used for comparison of categorical data. A statistical significance was assumed at a P value of less than 0,05.

RESULTS

The demographic characteristics of the patients surveyed, are seen in the following table 1.

63,5% of patients were on monotherapy, 25,5% on two drugs, 9,5% on three drugs, 1,5% on four drugs. 14% of hypertensives were treated with a combination regimen that included diuretics. Of the patients on monotherapy, 299 were on diuretics, 201 on ACE inhibitors, 72 on calcium antagonists, 47 on β -blockers, 9 on α -blockers, 4 on AT II receptor antagonists. On the whole considering both monotherapy and combination therapy, the most frequently prescribed antihypertensives are seen in Table 2.

Side effects of the antihypertensive medicines were reported by 42% of the hypertensives. They were more common among older people (55,2% among those >60 vs 33,4% among those <60 years of age).

Compliance to antihypertensive treatment was more common among hypertensives who did not report side effects (24% vs 2,6% among those

who reported side effects, $P < 0,005$). On the other hand, 20% of non-compliants attributed their non-adherence to treatment, to the side effects of antihypertensive medicines. 38% of the respondents switched to their current medication regimen because they experienced side effects. The most common reported side effects seen in Table 3.

CONCLUSIONS

Side effects of antihypertensive medicines are quite common and influence the quality of antihypertensive treatment.

Doctors should always take them into consideration and try to avoid them, choosing the most suitable medicine for each patient.

Table 1

Characteristic	Men	Women	Total
Age			
<40	10 (2,2%)	6 (1,1%)	16 (1,6%)
40-60	251 (55,8%)	338 (61,5%)	589 (58,9%)
>60	189 (42%)	206 (37,5%)	395 (39,5%)
Education			
Elementary school	94 (20,9%)	96 (17,5%)	190 (19%)
High school	43 (9,6%)	67 (12,2%)	110 (11%)
Lyceum	200 (44,4%)	250 (45,5%)	450 (45%)
University	113 (24,9%)	137 (24,7%)	250 (25%)
Employment status			
Employed in sedentary occupation	221 (49,1%)	279 (50,7%)	500 (50%)
Employed in physically active job	92 (20,4%)	10 (1,8%)	102 (10,2%)
Unemployed	5 (1%)		5 (0,5%)
Housewife		179 (32,5%)	180 (18%)
Retired	132 (29,5%)	82 (15%)	213 (21,3%)
Marital status			
Married	325 (72,2%)	392 (71,3%)	717 (71,7%)
Never married	44 (9,8%)	55 (10%)	99 (9,9%)
Widow	67 (14,9%)	83 (15,1%)	150 (15%)
Divorced	14 (3,1%)	20 (3,6%)	34 (3,4%)
Place of residence			
Village	122 (27,1%)	158 (28,7%)	280 (28%)
City	123 (27,3%)	137 (24,9%)	260 (26%)
Athens	205 (45,6%)	255 (46,4%)	460 (46%)

Table 2

	% of patients
Diuretics	45%
ACE inhibitors	35,1%
Calcium antagonists	34%
β-blockers	30,8%
AT II receptor antagonists	3%
a-blockers	2%
Central sympatholytics	1,5%

Table 3

Fatigue	120 (12%)
Orthostatic hypotension	120 (12%)
Cough	80 (8%)
Gout	70 (7%)
Decrease of libido	70 (7%)
Muscle cramps	50 (5%)
Ankle swelling	50 (5%)
Headache	40 (4%)
Flashing	40 (4%)
Gastroenteric disorders	30 (3%)
Dizziness	40 (4%)
Allergic reactions	15 (1,5%)
Dry mouth	16 (1,6%)
Dementia	20 (2%)
Palpitation	25 (2,5)

REFERENCES:

1. Mark A., et al.: Critical overview of antihypertensive therapies: what is preventing us from getting better. *Am. J. Manag. Care* 6: s211-221 (2000)
2. Dina R., Jafari M.: Angiotensin II-receptor antagonists: An overview. *Am. J. Health Syst. Pharm.* 57: 2036 (2000)
3. Greenberg A.: Diuretic complications. *Am. J. Med. Sci* 319: 10-24 (2000)
4. Schachter M.: Moxonidine: A review of safety and tolerability after seven years of clinical experience. *J. Hypertens Suppl.* 3: S373-379 (1999)
5. Kochar M.S., et al.: What is causing your patient's sexual dysfunction; Uncovering a connection with hypertensior and antihypertensive therapy *Postgrad. Med.* 106: 149-152 155-157 (1999)
6. Fletcher A.: Quality of life in the management of hypertension. *Clin. Exp. Hypertens.* 21: 961-972 (1999)
7. Leenen F.H.: Calcium antagonists: some agents lower blood pressure and still put the heart at risk? *Clin. Exp Hypertens. Jul-Aug(5-6):* 823-834 (1999)