

Prescription pattern of antihypertensive drugs in an urban locality of Hyderabad, Telangana

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Abstract

Objective: To determine the prescription pattern of antihypertensive drugs in an urban locality of Hyderabad. **Methods and Methodology:** Around 65 hypertensive patients were enrolled in the study after obtaining a written consent. They were identified by door to door survey. Prescription pattern of antihypertensive drugs was noted. The data was collected irrespective of other co-morbid conditions such as diabetes mellitus, asthma, ischemic heart disease, epilepsy. Cases of secondary hypertension were excluded. Childhood hypertensives were also excluded from the study. **Results and Discussion:** Calcium channel blockers are the most commonly prescribed class of antihypertensive drugs. Amlodipine is the commonly prescribed individual drug. Majority of the patients are on more than one drug therapy. The mean age of hypertensive is greater in male subjects. ACE inhibitors though regarded as one of the first line drugs are not prescribed commonly.

Keywords: antihypertensive drugs, prescription pattern.

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INTRODUCTION

Hypertension is an important public health challenge because of associated morbidity and mortality caused by cardiovascular diseases and cost to the society. Hypertension affects nearly 26% of adult population worldwide. By 2025 it is projected that 29% of the world's population will have hypertension¹. Hypertension is a major chronic disease affecting significant portions of the world's population and uncontrolled hypertension leads to severe long-term consequences such as stroke, heart failure, coronary heart disease and end-stage kidney disease. It is also associated with diabetes mellitus and chronic renal failure. Many studies have demonstrated that lifestyle modifications and adherence to appropriate

drug treatment are sufficient to maintain blood pressure at optimal levels with dramatic reduction in the risk of long-term cardiovascular and cerebrovascular events². Developing countries have limited funds available for healthcare and drugs and it becomes very important to prescribe drug rationally so that the available funds can be utilized optimally³. A prescription-based survey is considered to be one of the most effective methods to assess and evaluate the prescribing attitude of physicians⁴. Apart from unhealthy lifestyles, lack of awareness about hypertension, distorted public health systems, physicians treating hypertension also lag behind in treating hypertension according to standard guidelines. Non compliance to antihypertensive therapy is also a reason for uncontrolled hypertension⁵.

METHODS AND METHODOLOGY

The present study was conducted in an urban locality, King Kothi in Hyderabad, state of Telangana. This study has been basically done to evaluate the prescription pattern of antihypertensive drugs. The data was collected by door to door survey in the month of August 2014. A total of 65 patients were evaluated and data was obtained from them. The purpose of the study was explained to them and their consent was obtained. The same was

explained to them in their native language. To guard the identity, the names and addresses of the patients were not collected in the data. All the patients have given a written consent for the same. Out of 65 patients, 32 were males and 33 were females. The data was collected irrespective of other co-morbid conditions such as diabetes mellitus, asthma, ischemic heart disease, epilepsy. Cases of secondary hypertension were excluded. Childhood hypertensives were also excluded from the study. The prescription pattern of antihypertensive drugs, the frequency of drug intake was enquired.

RESULTS AND DISCUSSION:

Table 1: Mean age of study group (n=65)

Males (32)	61.82 years
Females (33)	57.84 years
Entire study group	59.82 years

Table 2: Type of drug therapy (n=65)

Monotherapy	40% (26)
2-drug therapy	40% (26)
More than 2 drugs therapy	20% (13)

Table 3: Order of prescription of various classes of drugs

Calcium channel blockers	47.7% (31)
ARBs	43.1% (28)
Diuretics	41.5% (27)
Beta blockers	30.8% (20)
ACE inhibitors	6.2% (4)
Centrally acting drugs	6.2% (4)
Combined alpha and beta blocker	3.1% (2)
Alpha blockers	1.5% (1)

Table 4: Prescription pattern of individual antihypertensive drug
n₁=117

Amlodipine	17.95% (21)
Telmisartan	14.53% (17)
Hydrochlorthiazide	13.67% (16)
Metoprolol	9.4% (11)
Losartan	7.69% (9)
Atenolol	5.98% (7)
Cilnidipine	4.27% (5)
Toresimide	4.27% (5)
Ramipril	3.42% (4)
Fruzemide	2.56% (3)
Clonidine	2.56% (3)
Diltiazem	1.70% (2)
Carvedilolol	1.70% (2)
Bisoprolol	1.70% (2)
Olmesartan	1.70% (2)
Nifedipine	1.70% (2)
Spirinolactone	1.70% (2)
Chlorthiazide	0.85% (1)
Moxinidine	0.85% (1)
Verapamil	0.85% (1)
Prazosin	0.85% (1)

Table 5: Prescription of ca channel blockers n₂=31

Amlodipine	67.7% (21)
Cilnidipine	16.13% (5)
Nifedipine	6.45% (2)
Diltiazem	6.45% (2)
Verapamil	3.2% (1)

Table 6: Prescription of beta blockers n₃=20

Metoprolol	55% (11)
Atenolol	35% (7)
Bisoprolol	10% (2)

Table 7: Prescription of ARBs n₄=28

Telmisartan	60.7% (17)
Losartan	32.1% (9)
Olmesartan	7.14% (2)

Table 8: Prescription of Diuretics n₅=27

Hydrochlorthiazide	59.3% (16)
Toresimide	18.5% (5)
Fruzemide	11.1% (3)
Spirinolactone	7.4% (2)
chlorthiazide	3.7% (1)

The mean age of the study group was found to be 59.82 years. The mean age for female subjects was 57.8 years which was much lower when compared to male subjects which was 61.8 years. Majority of the patients are on more than one drug therapy. Only 40% of the subjects were on a single drug therapy. Rest 60% of them was on two or more drug therapy. Calcium channel blockers were the most common class of drug prescribed in 47.7% of individuals followed by ARBs at 43.1%, diuretics at 41.5% and beta blockers in 30.8% of the subjects. Amlodipine was the most commonly prescribed individual hypertensive drug in 17.95% individuals followed by telmisartan in 14.53%, hydrochlorthiazide in 13.67% and metoprolol in 9.4% of the study group. Metoprolol was the commonly prescribed betablocker. Telmisartan was the commonly prescribed angiotensin receptor blocker. Hydrochlorthiazide was the commonly prescribed diuretics.

CONCLUSION

The prescription pattern of antihypertensive drugs looks to have inclination towards calcium channel blockers followed by angiotensin receptor blockers and diuretics. As such these are the drugs which have been prescribed as first line of drugs by JNC-8 along with ACE inhibitors⁶. The side effects associated with ACE inhibitors such as dry cough might be a hindrance for commonly prescribing them as one of the first line drug.

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