To Study the Blood Pressure Response to Azilsartan in Hypertension Patients

Mallikarjuna Shetty1, Nageswar Rao Modugu2, Lavanya Mandli3, Jummna Hussain3, Akshay Parikh4

ABSTRACT

INTRODUCTION

Hypertension is an important chronic disease which causes significant morbidity and mortality.1 With prevalence of 33% in urban and 27% in rural India, among them 41% in urban and 25% patients are aware of the disease.2 But only 37% in urban and 24% in rural are treated for hypertension. Among them only 20% in urban and 10% in rural are under control.3 Since there are many group of drugs to control blood pressure among them renin-angiotensin-aldosterone-system (RASS) blockers are commonly chosen because of efficacy and low side effects.1 The new RASS blocker Azilsartan has demonstrated sustained antihypertensive efficacy2 and this drug has been in Indian market since few months, and there are hardly any studies among Indian patients regarding efficacy and side effects which made us to collect data on Azilsartan on blood pressure response and its side effects.

MATERIAL AND METHODS

Out patient records of patients with diagnosis of Hypertension treated with Azilsartan, in Nizams Institute of Medical Sciences hospital which is a multispeciality, tertiary care referral hospital were collected over a period of three months.

Inclusion criteria

1. All patients diagnosed with Hypertension treated with Azilsartan 40 mg.
2. Age above 18 years.

Exclusion criteria

1. Patients age below 18 years.
2. Age more than 75 years.
3. Pregnant women.

Information from out patient records of all patients recruited for analysis was reviewed. In the history, demographic details, symptoms with the duration, risk factors if any were noted. Laboratory investigations Hemogram, complete urine examination, Liver function test, Renal function test, Lipid profile, Chest radiograph, Ultrasound Abdomen (carried with MyLab60 model, eSaote company from Ahmedabad), Electrocardiography, 2DEchcardiography were done and noted.

Diagnosis

The diagnosis of Hypertension was done according to JNC VII th guidelines.4 Hypertension was diagnosed when Systolic Blood Pressure (SBP) was 140 mmHg and/or Diastolic Blood Pressure (DBP) 90 mmHg. Isolated systolic hypertension was defined as a Systolic Blood Pressure 140 mmHg and a Diastolic Blood Pressure <90 mmHg.5

Follow up

Those patients who were on Azilsartan 40 mg dose, and their initial Blood pressure on day 1 was noted, then subsequently the Blood pressure was noted on day 8 and day 30 were also noted, along with any side effects.

The above data from all the patients was tabulated and analysed retrospectively. With main focus on symptoms, Blood pressure response to Azilsartan 40 mg on day 8 and day 30 and any side effects were noted. The study was retrospective audit with no patient direct identifiers, hence consent was not taken. Hospital ethics.

1. Associate Professor, 2. Professor, 3. Assistant Professor, 4. Assistant Professor, 5. Junior Resident, Nizam S Institute Of Med Sci Panjagutta, Hyderabad, Telangana State, India

Corresponding author: Dr Mallikarjuna Shetty, Associate Professor, Department of General Medicine, Nizam S Institute Of Med Sci Panjagutta, Hyderabad, Telangana State, India

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STATISTICAL ANALYSIS

Microsoft office 2007 was used for the statistical analysis. Descriptive statistics like mean and percentages were used to interpret the data.

RESULTS

Total 22 patients (Table-1) data was collected with age ranging from 35 years to 70 years, with mean age being 51.72 years, Male to Female ratio of 13:9 (59%:41%). The commonest symptom being headache in 41%, next symptom was giddiness, body pains in18.8%, neck pains in13.63%, leg pains in 4.54% and weakness in 4.54%.

Total 22 patients of Hypertension who received Azilsartan 40 mg and who came for review on day 8 and day 30 were included. The maximum systolic blood pressure (Pressure-2) noted on day 1 was 190 mm Hg with mean systolic blood pressure of 164.55 mm Hg, and maximum Diastolic blood pressure on day 1 was 108 mm of Hg, with mean diastolic blood pressure of 98.54 mm Hg. All the patients received Azilsartan 40 mg, after 8 days the mean systolic blood pressure was 141.66 mm Hg and mean diastolic blood pressure was 89.16 mm Hg. On follow up on day 30 (Figure-1) the mean systolic blood pressure was 133.55 mm Hg, and mean diastolic blood pressure was 88.83 mm Hg, 20 (90.9%), That is on day 8 and day 30 mean systolic Blood pressure came down by -23.9 mmHg and 31 mmHg respectively and mean Diastolic blood pressure came down by day 8 by-9.4 and by day 30 -10.4 mm Hg from day 1 blood pressure reading. All patients reached the goal blood pressure of <140 mm Hg systolic and <90 mm Hg diastolic blood pressure, except 3 (13.63%) patients, who required Azilsartan 80mg to control the blood pressure. The side effects of giddiness was seen in 2 (9.09%) patients.

DISCUSSION

Hypertension is one of the leading risk factor of non-communical diseases in south asia, and leading cause of stroke deaths and coronary heart disease deaths in India. In our study we had 22 patients of Hypertension who were treated with Azilsartan 40mg. Among them 13(59%) were male and 9(41%) were female which is similarly reported by M K singh et al 51% to 49%, Sathy et al 50.7% to 50.3% and William et al reported 54% to 46%. The age of the patients was 35 years to 70 years with Mean Age of 51, 72 years but M K singh et al had patients age ranging from 20 years to >70 years; But William et al had Mean age of 56 years in there study group. The commonest symptom of presentation was headache in 41% patients followed by giddiness, body pains in18.8%, neck pains in13.6% and leg pains, weakness in 4.5% patients, which are nonspecific but have been reported similarly by Willam et al.

The Mean Systolic blood pressure at presentation was 164.55 mm Hg and Mean Diastolic blood pressure was 98.54 mm of Hg, which is more than reported by Gupta et al of systolic blood pressure of 128.8±17 mm Hg, but similar to Yugoslavian cohort a baseline systolic BP of 144.2±23.7 mm Hg . After these patients were treated with daily Azilsartan 40 mg the Mean systolic Blood pressure on day 8 was141.66 mm Hg and Mean Diastolic Blood pressure was 89.16 mm Hg. And on day 30 the Mean Systolic Blood pressure was 133.55 mm Hg and...
The mean SBP and mean DBP reduction with Azilsartan 40 mg is -31 mm Hg and -10.4 mm Hg in our study, which is better than Candesartan 8-12mg its SBP reduction is -17.5 mm Hg and DBP -9.8 mm Hg in Rakugi13 et al study, Bonner16 et al reported Azilsartan SBP reduction of -20.6 compared to Ramipril SBP reduction of -12.2 mm Hg. Sica14 et al reported of SBP reduction of 11.3 mm Hg with valsartan 320mg and Bakris15 et al showed SBP response to olmesartan 40 mg was -12.6 mm Hg which is less compared to our study.

Total 87.3% patients reached target blood pressure which is similarly reported by White6 et al and Bakris15 et al. The major side effects was giddiness in 2 (9.09%) patients which is similarly reported by Kipnes16 et al. (8.9%). Thus Azilsartan has better Blood pressure reduction compared to candesartan, valsartan, olmesartan and Ramipril.

Limitations
This study has very small sample size, it’s a retrospective study, other parameters like benefits on Heart, Vascular system, Brain, Kidney, Liver, Lipids and other systems have not been included in the study.

CONCLUSION
Azilsartan a new angiotensin receptor (ARB) blocker has better clinical Blood pressure lowering effects compared to other ARBs with good tolerance. We expect more patients will have Blood pressure controlled, which will help in reducing risk for cardiovascular events. Hence Azilsartan is more efficient and effective in Blood pressure control in the Hypertension population.

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To my Wife Keerthi, Daugther Saanvi, My patients.

REFERENCES

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