



## A STUDY OF INCIDENCE OF DEPRESSION ASSOCIATED WITH THE LONG TERM USE OF BETA BLOCKERS IN HYPERTENSIVE PATIENTS.

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**ABSTRACT** **BACKGROUND:** Depression is highly prevalent and frequently occurs in patients with hypertension. Certain medication especially beta blockers when used to treat hypertension are alleged to be associated with higher risk of depression.

**OBJECTIVE:** To assess the incidence of depression associated with the long term use of beta blockers when compared with calcium channel blockers or angiotensin converting enzyme inhibitors.

**MATERIALS & METHODS:** A total of one hundred hypertensive patients who were on regular treatment for more than five years, visiting hypertensive clinic at Tirunelveli Medical College Hospital, Tirunelveli were included in the study. The study was conducted during the period of Oct 1st to 15 th 2010 after getting approval from ethical committee .Depressive symptoms were assessed using the Personal Health Questionnaire Depression Scale. A scoring was done to assess the severity of depression.A score of 0 – 5 is considered as insignificant. 6 – 8 considered as mild depression, 9 – 15 as moderate and more than 15 as severe depression

**RESULTS:** Totally 100 patients were assessed. 73 were females and 27 were males. Gender analysis revealed that female patients were more in number than males. With regard to age, highest incidence of hypertension was found in the age group of 60 –69 yrs. Out of 100, 40 patients were taking monotherapy and among them 12 patients were on Tab.Atenolol, 8 patients on Tab.Enalapril,13 patients on Tab.Amlodipine and 7 were on Tab.Nifedipine. 60 patients were on polytherapy. 58.33 % of patients who are taking Atenolol as monotherapy and 42.10 % of patients who were taking Atenolol along with other antihypertensives were found to have mild depression, whereas only 13.65 % of patients taking Enalapril and Amlodepine showed mild depression. 33.33 % in Atenolol group, 57.89 % in Atenolol combination group were having moderate depression.

**CONCLUSION:** In our study, use of Beta blockers was associated with high incidence of depression when compared to Calcium Channel Blockers & Angiotensin Converting Enzyme Inhibitors.

### KEYWORDS : Depression, Beta blocker, antihypertensive

#### BACKGROUND:

Depression is highly prevalent and frequently occurs in patients with hypertension. Certain medication especially beta blockers when used to treat hypertension are alleged to be associated with higher risk of depression.<sup>1</sup>

#### OBJECTIVE:

To assess the incidence of depression associated with the long term use of beta blockers when compared with calcium channel blockers or angiotensin converting enzyme inhibitors.

#### MATERIALS & METHODS:

A total of one hundred hypertensive patients who were on regular treatment for more than five years, visiting hypertensive clinic at Tirunelveli Medical College Hospital, Tirunelveli were included in the study. The study was conducted during the period of Oct 1<sup>st</sup> to 15<sup>th</sup> 2010 after getting approval from ethical committee.

Depressive symptoms were assessed using the Personal Health Questionnaire Depression Scale. A scoring was done to assess the severity of depression.

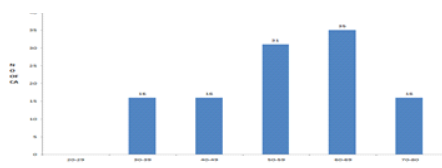
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#### RESULTS:

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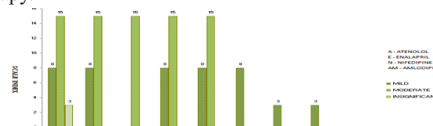
Gender analysis revealed that female patients were more in number than males.

#### Age Distribution



With regard to age, highest incidence of hypertension was found in the age group of 60 –69 yrs.

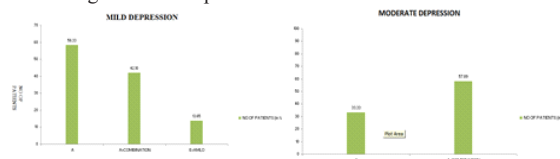
Out of 100, 40 patients were taking monotherapy and among them 12 patients were on Tab.Atenolol, 8 patients on Tab.Enalapril,13 patients on Tab.Amlodipine and 7 were on Tab.Nifedipine. 60 patients were on polytherapy.



The above diagram depicts scoring on depression scale in various groups.

58.33 % of patients who are taking Atenolol as monotherapy and 42.10 % of patients who were taking Atenolol along with other antihypertensives were found to have mild depression, whereas only 13.65 % of patients taking Enalapril and Amlodepine showed mild depression.

33.33 % in Atenolol group , 57.89 % in Atenolol combination group were having moderate depression



#### DISCUSSION:

Quality of life is an issue in selecting the most appropriate antihypertensive drug therapy. One particular determinant depression is a frequently mentioned side effect of beta blocker.

The present study was conducted to assess the incidence of depression in hypertensive patients on regular treatment for more than five years. In our study population higher incidence of hypertension was found in

the age group of 60-69 years, which is consistent with previous reports as per Framingham study.

Females outnumbered males in our study population. It may have been due to the reason that females were taking medicines regularly and major depression was also significantly more prevalent among patients who were females.<sup>2</sup>

58.33% of patients who were taking atenolol as monotherapy and 42.10% of patient were taking atenolol along with other antihypertensive were found to have mild depression. 33.33% in atenolol group, 57.89% in atenolol combination group were having moderate depression. The result were similar to studies analysis by L.D.Reid, B.H McFarland, RE Johnsan [et.al] in 1998.<sup>3</sup>

13.65% of patients taking combination of enalapril and amlodipine showed mild depression. There was no incidence of depression in patients on angiotensin converting enzyme inhibitor or calcium channel blocker monotherapy.

Study conducted by xiong et al reported that the association between beta blockers and depression does not seem to exist upto 12 months.<sup>4</sup> So this study was conducted in the patients who were undergoing treatment for more than five years.

The present study showed that the beta blockers are associated with a higher incidence of depression when compared to angiotensin converting enzyme inhibitor or calcium channel blockers similar to the study by L.Michal Prisant [et al] NOV 1999.

#### **CONCLUSION:**

In our study, use of Beta blockers was associated with high incidence of depression when compared to Calcium Channel Blockers & Angiotensin Converting Enzyme Inhibitors.

#### **REFERENCES:**

1. Ried, L. Depressive Symptoms in Coronary Artery Disease Patients after Hypertension Treatment. *Annals of Pharmacotherapy*, (2006); 40(4), pp.597-604.
2. Freedland, K. and Carney, R. Relationship between sleep-related symptoms of depression and polysomnographic findings in coronary heart disease. *Journal of Psychosomatic Research*, (2003); 55(2), pp.150-151.
3. Reid L.D, MC Farland BH, Johnson RE, brody KK. BETA BLOCKERS AND DEPRESSION, 1998 ed. HARVEY WHITNEY BOOKS COMPANY: THE ANNALS OF PHARMACOTHERAPY; 1998.
4. Prisant, L. Michael, et al. "Depression associated with antihypertensive drugs." *Journal of Family Practice*, Nov. 1991, p. 481+.