**THE EFFECTIVENESS OF BETA BLOCKER IN GERIATRIC WITH HEART FAILURE PATIENTS**

Dinda M.N. Ratri 1,2, Latifah Binti Zainudin3, Chrismawan Ardianto 1, Didik Hasmone 1, Desky Syura 1, Meity Ardiana 1

1 Clinical Pharmacy Department, Faculty of Pharmacy, Universitas Airlangga, Surabaya, East Java, Indonesia, Orcid ID: 0000-0001-5469-3561
2 Department of Pharmacy, Universitas Airlangga Hospital, Surabaya, East Java, Indonesia
3 Faculty of Pharmacy, Universitas Airlangga, Surabaya, East Java, Indonesia
4 Department of Pharmacy, Bhayangkara H.S.Samoser Mertosajo General Hospital, Surabaya, East Java, Indonesia
5 Department of Cardiology, Bhayangkara H.S.Samoser Mertosajo General Hospital, East Java, Surabaya, Indonesia

**INTRODUCTION**

- Heart failure is predominantly a cardio-vascular disease in geriatric population (age >60 years).
- Results in structural or functional changes of heart and impairment of ventricular filling or blood ejection.
- Beta blockers agent remains as first line therapy in patients with HFrEF unless contraindicated.
- Has beneficial effects in improving LVEF, reduce hospitalizations, increase the survival rates and reduce mortality in geriatric patients with heart failure.
- So far, not much narrative review has analysed the evidence on beta blockers usage for the management of heart failure in older population.

**MATERIAL & METHODS**

A narrative review study was conducted with collection of data derived from Scopus and Pubmed database using the specific keywords. Inclusion and exclusion of data was differentiate using the data below:

- Population: Geriatric patients >60 years old
- Intervention: Patients who treated with beta blocker therapy
- Comparison: Patients with or without other than beta blocker treatment
- Type of Design: Randomized Controlled Trial

**RESULTS**

**PROBLEM STATEMENT**

1. How can beta blocker reduce heart rate and blood pressure for geriatric patients with heart failure?
2. How can the effectiveness of beta blocker can affect the number of mortality for geriatric patient with heart failure?
3. What function changes occur in heart after receiving beta blocker?

This study was undertaken to assess the effectiveness of beta blocker in geriatric patients with heart failure in health function parameter (% left ventricular ejection function (LVEF), left ventricle end diastolic volume (LVEDV), left ventricle systolic volume (LVSVO), blood pressure (BP) and heart rate (HR)).

**DISCUSSION**

Six studies were included and three generations of beta blocker were identified in our study. The most prescribed by physician is Carvedilol. The geriatrics patients who underwent beta blocker therapy had improvement in percentage of left ventricle ejection fraction, left ventricle end diastolic volume, and left ventricle systolic volume. Beta blocker treatment also showed reduction in heart rate and blood pressure. This study showed that beta blockers agent significantly effective and can be tolerated by geriatric patients with heart failure.

**CONCLUSION**

Beta blockers agent considered effective in improving mortality and reduce hospitalization in geriatric patient with heart failure. Relevant reductions of heart rate and blood pressure also occurred. The geriatric patients with heart failure experienced considerable improvements in clinical parameters and LV function. However, due to different study design of each study, it is quite difficult to compare the effectiveness of beta blocker in geriatric patients with heart failure among all the centers. This study confirms that further studies are needed to determine the effectiveness and dosage for beta blockers therapy in geriatric patients with heart failure.

**REFERENCES**


**ACKNOWLEDGEMENT**

This study was supported by Lecturers of Universitas Airlangga, East Java Surabaya, Indonesia with Doctor and Pharmacists of Bhayangkara H.S.Samoser Mertosajo General Hospital, Surabaya, East Java, Indonesia.