Do all heart failure patients really need beta-blockers?

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KLINIČKA BOLNICA DUBRAVA

Backgroud

Beta-blockers (BBs) have proven their efficacy in reducing mortality in patients with heart failure with reduced ejection fraction (HFrEF). However, the effects in patients with heart failure with preserved ejection fraction (HFpEF) and heart failure with mildly reduced ejection faction (HFmrEF) are less clear and consistent data are lacking.

Objectives

The aim of this study was to examine the association of BB therapy with all-cause mortality in different groups of HF patients.

Methods

We investigated BB use in real-life cohort of patients with heart failure (HF) diagnosis included in the registry in the period between June 2021 and February 2024. We compared all-cause mortality between patients who did not receive any BB therapy and patients receiving BB therapy at three different doses, defined as maximal, medium (≥50% of maximal dose) and low (≥25% of maximal dose). For statistical analysis we used chi-square and Fisher's exact test and the p value of 0.05 was defined as statistically significant.

Figure 1.

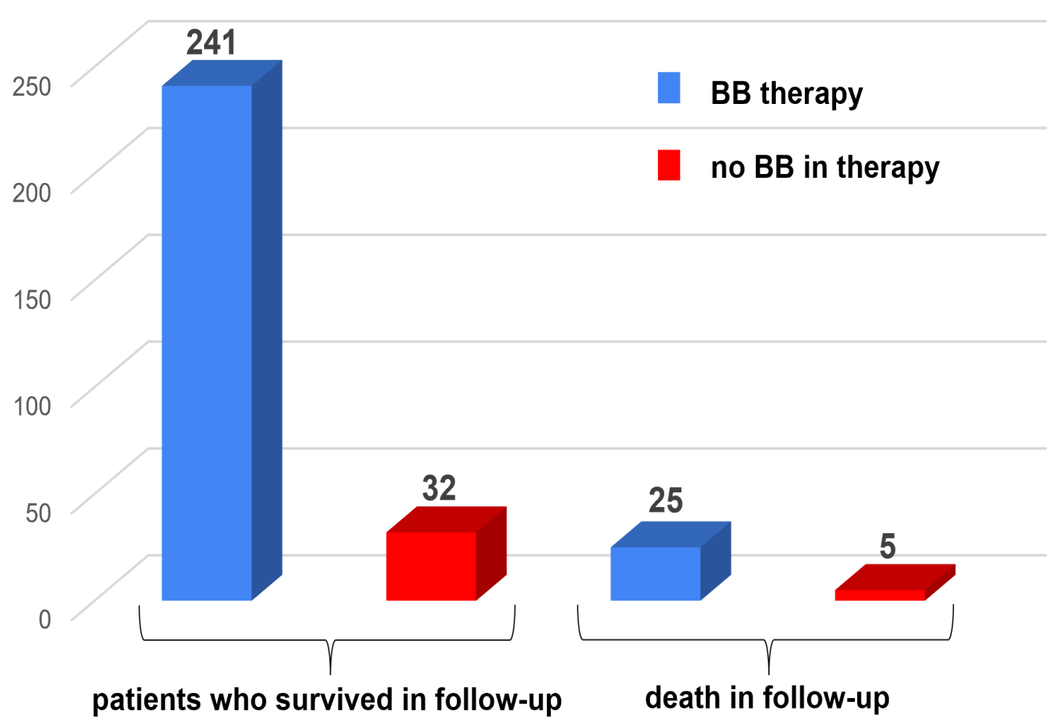

Figure 1. Mortality of HFpEF and HFmrEF patients depending on BB therapy. BB=beta-blockers; HFpEF=heart failure with preserved ejection fraction; HFmrEF=heart failure with mildly reduced ejection fraction.

Results

This registry-based study included 1009 patients with median age of 70 years (IQR 62-76), and median follow-up period of 365 days (IQR 184-367). Total of 247 patients had HFpEF (24.5%), 146 patients had HFmrEF (14.5%) and 616 patients had HFrEF (61.1%).

In HFrEF group patients with BB therapy in any dose had significantly lower all-cause mortality compared to the patients without BB therapy (mortality rate 11 vs. 32%, *p*=.02). All-cause mortality rate between patients receiving BB therapy at any dose and patients without BB therapy in both HFmrEF and HFpEF group did not differ. There was no statistically significant difference in dose-related outcomes for three different BB doses in overall HF cohort, nor in each HF group separately. BB use in HFrEF patients with history of AF was associated with significantly lower all-cause mortality (7 vs. 47%, *p*<.00001), but these results did not translate to HFpEF nor HFmrEF patients with history of AF.

Figure 2.

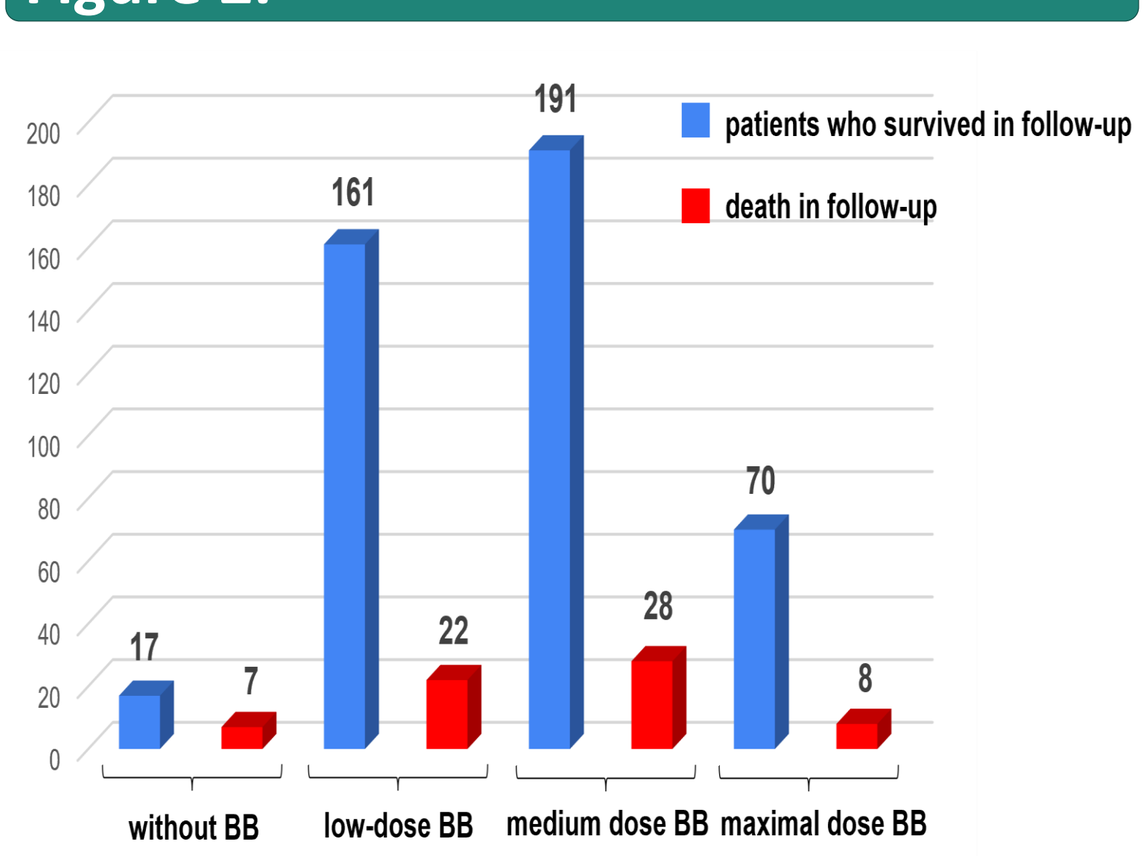

Figure 2. Mortality of HFrEF patients depending on BB therapy and dosing. BB=beta-blockers; HFrEF=heart failure with reduced ejection fraction.

Conclusion

Our findings indicate that BB do not improve survival in patients with HFmrEF and HFpEF, independently of history of AF. Real-life studies and well-designed registries with larger cohorts of patients and longer follow-up period are needed to investigate the impact of BB use and dosing on survival in different groups of HF patients.

Keywords: beta-blockers, heart failure, all-cause mortality

Literature

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