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Gender difference in impact of ischemic heart disease on long-term outcome in patients with heart failure reduced ejection fraction

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Background: Ischemic heart disease (IHD) is a major underlying etiology in patients with heart failure (HF). Although the impact of IHD on HF is evolving, there is a lack of understanding of how IHD affects long-term clinical outcomes and uncertainty about the role of IHD in determining the risk of clinical outcomes by gender.

Purpose: This study aims to evaluate the gender difference in impact of IHD on long-term clinical outcomes in patients with heart failure reduced ejection fraction (HFrEF).

Methods: Study data were obtained from the nationwide registry which is a prospective multicenter cohort and included patients who were hospitalized for HF composed of 3,200 patients. A total of 1,638 patients with HFrEF were classified into gender (women 704 and men 934). The primary outcome was all-cause death during follow-up and the composite clinical events of all-cause death and HF readmission during follow-up were also obtained. HF readmission was defined as re-hospitalization because of HF exacerbation.

Results: 133 women (18.9%) were died and 168 men (18.0%) were died during follow-up (median 489 days; inter-quartile range, 162–947 days). As underlying cause of HF, IHD did not show significant difference between genders. Women with HFrEF combined with IHD had significantly lower cumulative survival rate than women without IHD at long-term follow-up (74.8% vs. 84.9%, Log Rank p=0.001, Figure 1). However, men with HFrEF combined with IHD had no significant difference in survival rate compared with men without IHD (79.3% vs. 83.8%, Log Rank p=0.067). After adjustment for confounding factors, Cox regression analysis showed that IHD had a 1.43-fold increased risk for all-cause mortality independently only in women. (odds ratio 1.43, 95% confidence interval 1.058–1.929, p=0.020). On the contrary to the death-free survival rates, there were significant differences in composite clinical events-free survival rates between patients with HFrEF combined with IHD and HFrEF without IHD in both genders.

Conclusions: IHD as predisposing cause of HF was an important risk factor for long-term mortality in women with HFrEF. Clinician need to aware of gender-based characteristics in patients with HF and should manage and monitor them appropriately and gender-specifically. Women with HF caused by IHD also should be treated more meticulously to avoid a poor prognosis.

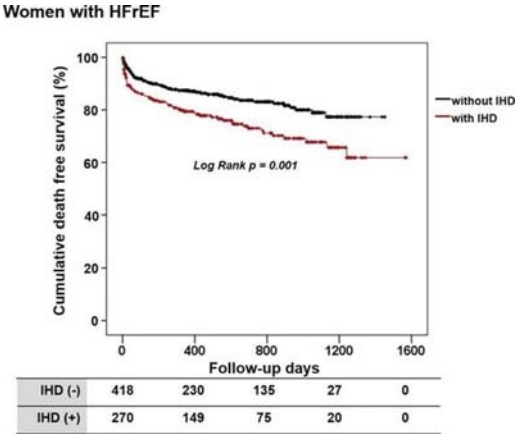

Figure 1