# Sodium glucose co-transporter 2 inhibitors as early therapy in patients with newly diagnosed heart failure with reduced ejection fraction: real world experience

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**KEYWORDS:** sodium-glucose co-transporter 2 inhibitors, heart failure with reduced elevation fraction, ischemic heart disease, non-ischemic heart disease.

**CITATION:** Cardiol Croat. 2024;19(11-12):432. | https://doi.org/10.15836/ccar2024.432

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**Introduction**: Current evidence supports the early initiation of guideline-directed medical therapy (GDMT) for heart failure as each component independently contributes to improved outcomes[1]. However, there is limited evidence on how sodium glucose co-transporter 2 inhibitors (SGLT2i) specifically affect patients with heart failure with reduced ejection fraction (HFrEF) based on the etiology whether ischemic or non-ischemic. Understanding these differences is crucial as the underlying cause can significantly influence disease progression treatment response and overall prognosis. This study aims to investigate the early introduction of SGLT2i in patients with newly diagnosed HFrEF comparing outcomes between ischemic and non-ischemic etiologies.

**Patients and Methods**: This prospective observational study included 253 patients newly diagnosed with HFrEF divided into ischemic (78 patients) and non-ischemic (179 patients) groups based on the underlying cause of heart failure. Data were collected through detailed medical record reviews and follow-up telephone interviews. We assessed short-term (6 months) and long-term (12 months) outcomes including mortality, left ventricular ejection fraction (EFLV), NT-proBNP levels, NYHA functional class, and heart failure-related hospitalizations.

**Results**: In the short-term both groups showed similar symptomatic improvement evidenced by comparable reductions in NYHA functional class. However long-term follow-up revealed significant differences: NT-proBNP levels remained significantly higher in the ischemic group (m 1602.61 pg/mL) compared to the non-ischemic group (m 793.73 pg/mL). LVEF recovery was similar between the groups, with mean values of 43.34% in the ischemic group and 42.91% in the non-ischemic group. Mortality rates were higher in the ischemic group as were emergency visits while heart failure-related hospitalizations were slightly more frequent in the non-ischemic group.

**Conclusion**: Early initiation of SGLT2i appears to provide substantial benefits in managing newly diagnosed HFrEF across both ischemic and nonischemic etiologies. Nevertheless, patients with ischemic heart disease may experience greater clinical challenges as reflected by persistently elevated NTproBNP levels and slightly lower EFLV improvement. These findings underscore the need for tailored treatment strategies for ischemic heart failure patients to optimize outcome.

**RECEIVED:**
**September 30, 2024**
**ACCEPTED:**
**October 31, 2024**

## LITERATURE

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