

# C-reactive protein in patients with heart failure treated with sodium glucose cotransporter type 2 inhibitors

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**Introduction:** Low-grade inflammation has been associated with pathogenesis and progression of all specters of heart failure (HF).<sup>1</sup> Sodium glucose cotransporter type 2 inhibitors (SGLT-2i) have been shown to reduce inflammation and improve cardiac function.<sup>2</sup> *Aim:* to assess the change in C-reactive protein (CRP) levels in patients with HF treated with SGLT-2 inhibitors in follow up of 12 months.

**Patients and Methods:** We included patients diagnosed with all specters of HF – reduced ejection fraction (HFrEF), mildly reduced ejection fraction (HFmrEF) and preserved ejection fraction (HFpEF) according to the guidelines, at Dubrava University Hospital from May 2021 to September 2023 and prescribed with SGLT-2i among other guideline directed medical therapy (GDMT). We assessed the initial values of CRP and after 12 months of follow up.

**Results:** This CaRD registry-based study included 268 HF patients with a median age of 66 (IQR 58-72) years, 71% male. 55% of patients were diagnosed with HFrEF, 27.6% with HFmrEF and 17.5% with HFpEF. 7.8% of patients stopped using SGLT-2i or were lost to follow up. 8.95% patients had other three pillars of GDMT prescribed at the initiation of SGLT-2i treatment. Median initial value of CRP was 5 mg/L (IQR 2.2-11.35mg/L). After 12 months of follow up, we observed a reduction of CRP by 1.3 mg/L (IQR -6.8-0.13mg/L,  $p<0.001$ ). In subanalysis we also observed a reduction of N terminal pro-B type natriuretic peptide (NT-proBNP) during follow up (delta NT-proBNP was -1180.5, IQR -4136 to -302.5 pg/mL,  $p<0.001$ ), as well as improvement in ejection fraction (delta EF 5%, IQR 0-10%) in all subtypes of HF. Kidney function (assessed by the change in estimated glomerular filtration rate (eGFR)) has also improved (delta eGFR 32.2 ml/min/1.73m<sup>2</sup>, IQR -2.9-68.6,  $p<0.001$ ) during follow up.

**Conclusion:** SGLT-2i reduced CRP in all specters of HF during follow up of 12 months.

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## LITERATURE

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