

The impact of sodium-glucose cotransporter-2 inhibitors (sglt2i) on ventricular arrhythmia burden in patients with ICDs

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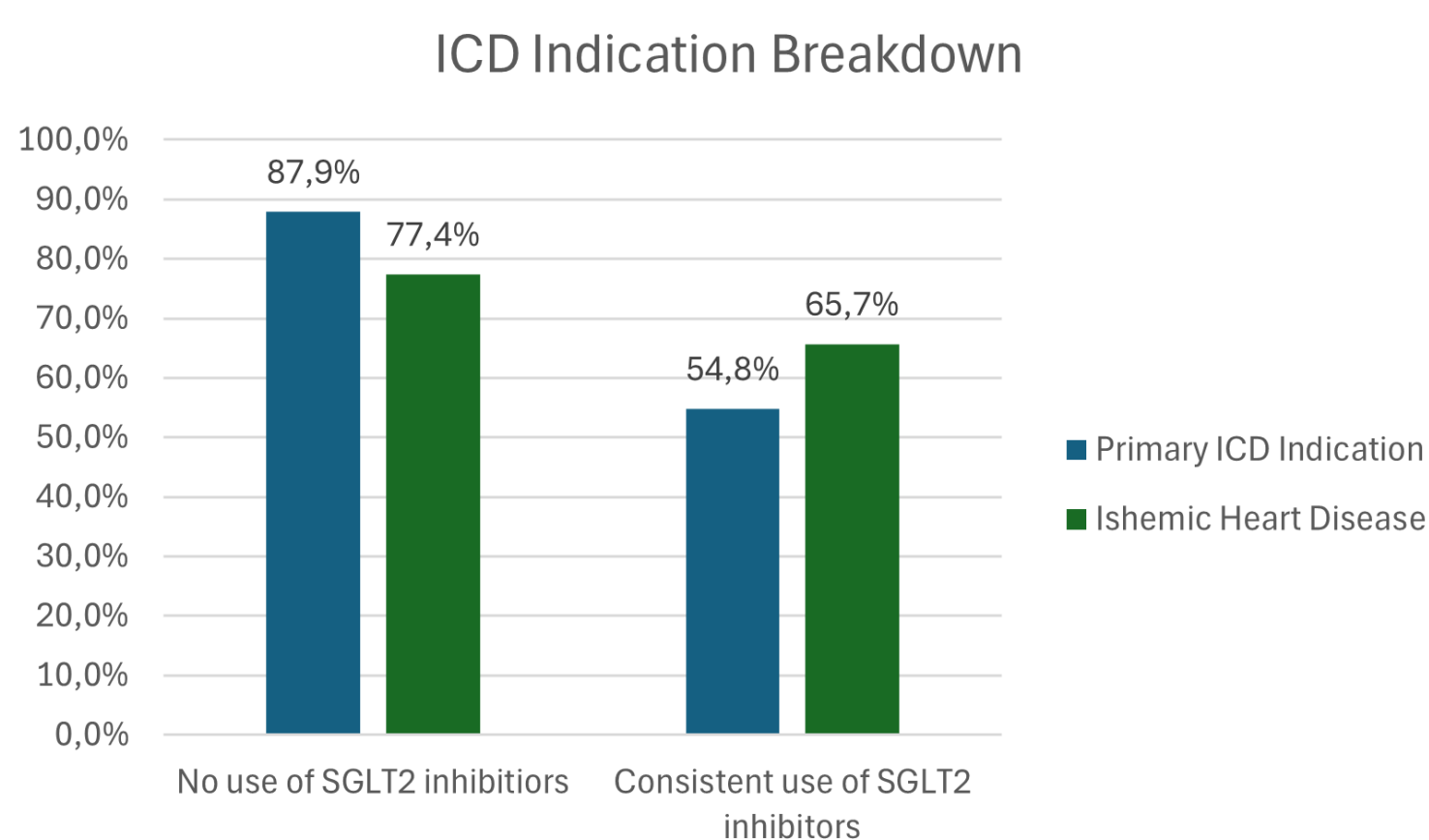
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Introduction

Sodium-glucose cotransporter-2 inhibitors (SGLT2i), initially developed to treat type 2 diabetes mellitus (T2DM), have shown cardiovascular benefits beyond glucose control, particularly in heart failure patients. (1) However, limited data exist on the effects of SGLT2i on the burden of ventricular arrhythmias in patients with ICDs

Methods

This was a prospective, single-center, observational study conducted on patients with ICDs. All patients are enrolled in an institutional registry (CaRD registry-HF). The patients were divided into three groups based on the use of SGLT2 inhibitors: no use (SGLT2 = 0, N=27), and consistent use (SGLT2 = 1, N=50). Variables such as age, sex, body mass index (BMI), and primary versus secondary ICD indication were considered. of VA episodes detected by ICDs.



Discussion

The results of this study indicate that the use of SGLT2 inhibitors is associated with a lower burden of ventricular arrhythmias in patients with ICDs. These findings suggest that SGLT2i may have antiarrhythmic effects, possibly due to their ability to reduce cardiac fibrosis, inflammation, and improve myocardial energy efficiency. Additionally, the reduction in ventricular arrhythmias could be explained by the favorable effects of SGLT2i on heart failure outcomes, such as improved diastolic function, reduced left ventricular wall stress, and a decrease in overall cardiac workload. Further research is warranted to confirm these findings and establish the role of SGLT2 inhibitors in arrhythmia management

Literature

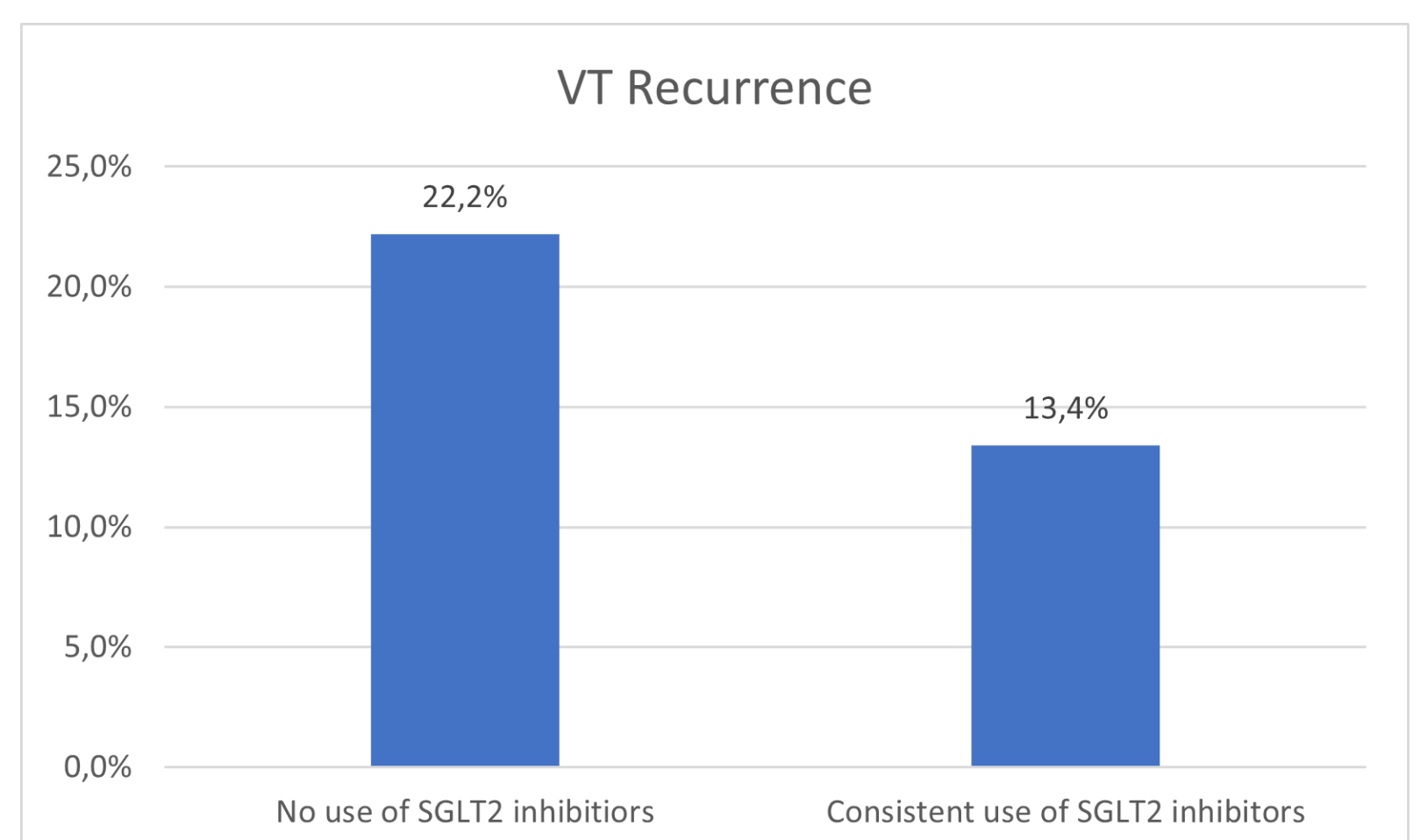
1. Lopaschuk GD, Verma S. Mechanisms of cardiovascular benefits of sodium glucose co-transporter 2 (SGLT2) inhibitors: a state-of-the-art review. JACC Basic Transl Sci 2020;5:632–44.

Objectives

This study aims to investigate the impact of SGLT2i on VA burden in ICD patients.

Results

The primary outcome was the recurrence of ventricular tachycardia (VT) events, recorded as the number. The mean age of patients was similar across groups, with a slight variation: 64.5 years (SGLT2 = 0), 61.7 years (SGLT2 = 1). The majority of patients in the SGLT2 = 1 group had primary ICD indications (87.9%), compared to 54.8% in the no-SGLT2 group. Ischemic heart disease was the leading cause in the SGLT2 = 0 group (77.4%) compared to 65.7% in the SGLT2 = 1 group. In patients with no SGLT2i use, 22, 2% patients experienced the recurrence of VT. Patients with SGLT2i use had a lower recurrence rate of VT, with 13,4% of patients experiencing VT (n=21).



Keywords

SGLT 2 inhibitors, ventricular arrhythmias, heart failure

