

# Effects of SGLT2 Inhibitors as an Add-on Therapy to Metformin on Electrocardiographic Indices of Ventricular Repolarization

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We appreciate the positive remarks by Patoulias et al. regarding our manuscript entitled “Effects of sodium-glucose co-transporter-2 (SGLT-2) Inhibitors as an Add-on Therapy to Metformin on Electrocardiographic Indices of Ventricular Repolarization”.<sup>1</sup> In our study, we observed favourable alterations in QT, QTc and Tp-e intervals in patients who used SGLT-2 inhibitors as an add-on therapy to metformin. We also observed favorable alterations in Tp-e/QT and Tp-e/QTc ratios. We certainly agree that as a result of oxidative stress, endothelial dysfunction and vascular remodelling associated with hyperglycemia, patients with type 2 diabetes mellitus (T2DM) are predisposed to serious cardiovascular complications including atrial fibrillation (AF).<sup>2,3</sup>

Recently there have been several trials and real-world studies on the cardiovascular benefits of SGLT-2 inhibitors in type 2 diabetic patients. According to these studies there have been significant reductions in the composite endpoint of cardiovascular death, nonfatal myocardial infarction, nonfatal stroke and heart failure-related hospitalizations.<sup>4,6</sup> In another study conducted by Shao et al. empagliflozin therapy showed beneficial effects on prevention of AF occurrence in diabetic rats. According to their study, empagliflozin administration attenuated DM induced left atrial interstitial fibrosis, atrial myocyte hypertrophy and effectively suppressed DM induced atrial electrical remodeling. They also showed favourable effects of empagliflozin therapy on mitochondrial function and mitochondrial biogenesis in T2DM.<sup>7</sup>

Due to above mentioned reasons one can assume that SGLT-2 inhibitors have been associated with a significant decrease in the risk of AF. We agree with Patoulias and colleagues that there is a need to identify the effects of empagliflozin therapy on prevention of AF in patients with T2DM. Although we mainly focused on the association between empagliflozin therapy and ventricular repolarization indices, we did not evaluate the role of empagliflozin therapy on prevention of AF occurrence in T2DM. Further studies with larger cohorts are needed to confirm this data.

## CONFLICT OF INTEREST

All the authors declare no conflict of interest.

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Received: February 1, 2021 Accepted: March 8, 2021

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