

EMPAGLIFLOZIN VS. LIRAGLUTIDE FOR PREVENTING CARDIOVASCULAR MORTALITY IN PATIENTS WITH TYPE 2 DIABETES- A COST MINIMIZATION ANALYSIS

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Purpose: Empagliflozin, an inhibitor of sodium–glucose cotransporter 2 and Liraglutide, a glucagon-like peptide 1 analogue, both significantly reduce the incidence of cardiovascular (CV) death in patients with type 2 diabetes. We performed a cost-minimization analysis (CMA) of Empagliflozin vs. Liraglutide for preventing CV death. Methods: CV death risk reduction ratios with Empagliflozin and Liraglutide therapies were extracted from the published data of the EMPA-REG OUTCOME and LEADER trials. Both trials investigated the effect of therapy on CV outcomes of patients with type 2 diabetes and high CV risk. Although the definition of high CV risk was different between trials, the incidence rates of CV death are comparable (1.6 vs. 2.0 per 100 patient-years, in EMPA-REG OUTCOME and LEADER trials, respectively). Therefore we used the LEADER trial standard of care arm as a common baseline for comparison. Drug costs are based on current list prices in the United States. Results: In the LEADER trial, 16,338 patient-years treatment with Liraglutide resulted in the prevention of 86 CV deaths (95% CI, 21-153), while Empagliflozin could have prevented 264 CV deaths (95% CI: 160-354), according to EMPA-REG OUTCOME results. The cost of preventing one CV death with Empagliflozin therapy (\$5,039 per patient-year) would be \$312,176 (95% CI: \$232,602-\$515,770) compared to \$1,822,660 (95% CI: \$1,020,429- \$7,483,149) for Liraglutide (\$9,536 per patient-year). Conclusions: Using Empagliflozin to prevent CV death in patients with type 2 diabetes results in significantly lower costs of drug therapy, when compared with Liraglutide used for the same indication.