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Session: Novel Medications in HF Field

Title: Emerging Role of SGLT2i in HF Management

Speaker: Barry Greenberg, MD (University of California, San Diego)

Sodium glucose transporter 2 inhibitors (SGLT2i's) which were initially developed as hypoglycemic agents for patients with Type 2 diabetes mellitus (T2DM) have emerged over the past several years as important therapies for treating patients with heart failure (HF), regardless of their left ventricular classification (i.e., HFrEF, HFmrEF and HFpEF). The predominant effect of these drugs is to block uptake of glucose by the SGLT2 transport proteins in the nephron. Although this effect leads to an obligatory loss of fluid which would be useful for treating congestion, it is likely that other properties of drugs in this class contribute to their beneficial effects in the HF population. Recent clinical trials using empagliflozin and dapagliflozin, respectively, in patients with HFrEF (EMPOWER Reduced and DAPA-HF) and HFpEF (EMPOWER Preserved and DELIVER) included patients across the spectrum of left ventricular ejection fraction. The results of these studies consistently demonstrated that when an SGLT2i was added to background therapy of patients with HF, there were significant reductions of 20-30% in combined cardiovascular mortality and HF hospitalization, with the greatest effects being seen on HF hospitalization. Moreover, the beneficial effects were similar in patients regardless of whether or not there was a history of T2DM. A reduction in the primary endpoint in the clinical trials was observed as early as 2-3 weeks after drug initiation. Data from the SOLOIST-WHF study in which the combined SGLT1 and SGLT2 inhibitor, sotagliflozin was tested in patients with T2DM and worsening HF, demonstrated favorable results in this population. Although SGLT2i's may cause a transient reduction in eGFR in patients when they are initiated, there is evidence that over time they lead to reduced rate of deterioration in renal function. Guidelines now provide a Class I recommendation for the use of SGLT2 inhibitors for patients with HFrEF and a Class IIa recommendation for their use in patients with either HFmrEF or HFpEF. With the publication of the results of the DELIVER trial, it seems likely that this recommendation will be elevated to Class I in both of these latter classes of HF patients. Overall, the SGLT2 inhibitors are an important new addition to the therapeutic regimen for patients with HF across the spectrum of the disease and they are strongly recommended for all HF patients unless there is a contraindication to their use.