CLAHRC East Midlands
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National Institute for Health Research

CLAHRCBITE

Brokering innovation through evidence

The cardiovascular benefits of SGLT-2 is and GLP-1RAs in type 2 diabetes

Results

SGLT-2is and GLP-1RAs provided similar benefits in reducing major adverse cardiovascular event risk when compared to placebo.

Who needs to know?

- General practitioners
- Diabetologists
- Diabetes specialist nurses
- People with type 2 diabetes

What did we do:

We conducted a systematic review by searching electronic databases for cardiovascular outcome trials analysing one of the two anti-diabetic treatment classes, SGLT-2is and/or GLP-1RAs, that reported 3-point major adverse cardiovascular events (time till non-fatal stroke, non-fatal myocardial infarction or cardiovascular mortality) in adults (≥18 years). Trial results were combined using a Bayesian network meta-analysis to compare the efficacy of these two classes of anti-diabetic medications.

What we found and what does this mean:

After systematically searching databases, 8 trials (60,082 patients) were included in the analysis. SGLT-2is and GLP-1RAs reduced the risk of 3-point major adverse cardiovascular events by 14% and 12% when compared to placebo, respectively, with no differences between the two. SGLT-2is showed a 33% risk reduction in hospital admission for heart failure compared to placebo and 29% risk reduction when compared to GLP-1RAs.

What next:

Type 2 diabetes in an important risk factor for cardiovascular events. By analysing trials of SGLT-2is and GLP-1RAs, both compared to placebo, we have been able to quantify and compare the efficacy of these treatment classes. Further studies will need to be conducted to compare these treatment classes in terms of their glycaemic benefits and reduction in bodyweight, both in trial and real-world settings.

Evidence:

Hussein, H., Zaccardi, F., Khunti, K., Seidu, S., Davies, M.J. and Gray, L.J., 2019. Cardiovascular efficacy and safety of sodium-glucose co-transporter-2 inhibitors and glucagon-like peptide-1 receptor agonists: a systematic review and network meta-analysis. Diabetic Medicine (doi: 10.1111/dme.13898)

What is NIHR CLAHRC EM?

NIHR Collaborations for Leadership in Applied Health Research and Care (CLAHRCs) are collaborations between the NHS, universities and local organisations. Our goals are to conduct applied health research across the East Midlands and translate our research findings into improved outcomes for the public.

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