



The GeriJournal

Volume 16, Number 3

March 2021

A publication of GeriatRx Pharmacy

SGLT2s Tough to Refuse

I have exercised restraint over the past few months and resisted the urge to write about SGLT2 drugs. There is so much positive news about these antidiabetic dynamos that something had to be said.

SGLT2 inhibitors (empa, cana and dapa “gliflozin”) prevent glucose that is filtered by the kidney’s nephrons from being reabsorbed back into the bloodstream. The glucose goes out with the urine, increasing urine volume and decreasing blood glucose levels (and BP). Promising studies over the past few years have shown much broader benefit than could have been imagined, and it seems each new study builds on the utility of the ones before it.

In 2016, we had the EMPA-REG study. Empagliflozin (Jardiance®) reduced MACE (major adverse cardiovascular events - NNT = 63), all-cause mortality (NNT=38) and hospitalizations significantly in Type 2 diabetics. Last October, the EMPEROR-Reduced trial evaluated heart failure (HF) patients with reduced ejection fractions. In just over a year

there was a major reduction in CV death or 1st HF hospitalization (NNT = 19). Patients were on optimal therapy before empagliflozin was added, which makes the results even more impressive. It is also worth noting that half the patients in the study were not diabetic!

That was exciting, but was this a class effect or only seen with empagliflozin?

Canagliflozin (Invokana®) benefits were identified in the CANVAS (2017) and CREDENCE (2019) trials. MACE and cardiac death were significantly lower than in the placebo group. Surprisingly, doubling of creatinine levels, protein spilling in urine and progression to end stage renal disease and death were also decreased significantly, even though patients were already receiving good renal therapy, with an ACEI or ARB. Dapagliflozin (Forxiga®) showed similar benefit (DAPA-CKD) in advanced CKD with albuminuria. Markers for renal disease progression were reduced sharply with a NNT of just 19, as were renal and CV death. Once again, 32% of the trial subjects did not have diabetes.

Of course, the news can’t all be good. Although the presence of side effects was similar in treatment and placebo groups, SGLT2 inhibitors are

associated with some troublesome adverse effects. Canagliflozin doubled the incidence of amputations (primarily of the toe) in CANVAS. It is well known that these medications have the potential to cause dehydration and urinary tract infection due to the presence of increased sugar in the urinary tract. They have also been linked to diabetic ketoacidosis, so registered staff must watch for signs of hyperglycemia.

These trials include older adults, but are often missing large numbers of elderly subjects. Still, with the success in both diabetic and non-diabetic patients we are likely to see them grow in popularity in our homes.

Rapid Test of Courage

How accurate are rapid COVID tests? A Cochrane review of 64 studies tells us. Symptomatic individuals will have a positive test result 72% of the time. Asymptomatic PCR positive COVID cases test positive only 58% of the time. Quite a few positives are missed! Only about 1% of uninfected samples test positive, so that is a bit of good news. End result...some COVIDs will get past the fortifications at each home’s entryway. That’s a shame, because the test is no fun. Let’s all get vaccinated so before long we can avoid the savage treatment by the front door of our friendly LTC.

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