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SGLT2s Not Quite Perfect

If it ends in gliflozin, it's an SGLT2 inhibitor. Initially developed for diabetes, these drugs have proven to be powerful weapons for other conditions, particularly cardiac and renal disease. Very exciting!

Always one to give a balanced accounting, I've also addressed some potential concerns with this class. Dehydration is the most common adverse effect and is a significant concern in the elderly. UTIs and yeast infections can occur due to the presence of glucose in the urine. Amputations and fractures were initially linked to these drugs, but studies have challenged those early findings.

An infrequent but serious adverse effect of gliflozins is euglycemic diabetic keto-acidosis (EDKA). We have seen a handful of EDKA cases in our homes. The process starts with SGLT2-linked glucose loss in the urine and subsequent diuresis. Glucagon levels rise in an attempt to increase serum glucose while insulin release is suppressed. With glucose stuck in the bloodstream and in short supply the body begins to use fat for energy. Ketones are an acidic byproduct of fat burning and decrease body pH, causing metabolic acidosis.

In typical DKA, glucose levels are extremely high so diagnosis and intervention usually occur quickly. With normal blood sugars, EDKA recognition may be delayed. This emergency condition usually requires hospitalization, so delays can be life-threatening. EDKA risk is highest in the elderly, as it can be triggered by dehydration, nutritional deficit, or infection. Ketoacidosis has even been reported in non-diabetics taking SGLT2 inhibitors. As per SADMAN**S** (the 2nd "S" is for SGLT2 inhibitors), these drugs must be held when residents are unwell, or food/fluid intake is reduced.

We must be vigilant in monitoring for signs and symptoms of DKA/EDKA. Be on the lookout for nausea, vomiting, lethargy, confusion, rapid breathing, abdominal pain, and reduced appetite. EDKA can progress to coma and death. If signs of EDKA are present a ketone dipstick should be used for screening. If the result is moderate or greater, blood testing should be done. We will send free blood ketone meters on request to any facility that is interested. Any blood ketone level above 0.6 is concerning. Levels above 1.5 require immediate intervention.

Cannabis Guidelines

Medical cannabis has been a popular product in our facilities for the past 5 years. Use in seniors has been prominent, as conventional drugs have either failed to control troubling symptoms or caused intolerable side effects. Clinicians with expertise in cannabis treatment have developed their own protocols and several publications have emerged touting CBD and THC use. Comprehensive guidelines for treating chronic pain have been lacking, however.

Researchers from several major Canadian universities and addiction treatment centres have changed that. Their chronic pain guidelines appear in *Cannabis and Cannabinoid Research.* Although the focus is not on the elderly, useful dosage titrations and strategies for treating different types of chronic pain are provided. I found the opiate tapering guide particularly interesting. First, cannabis is titrated to its maintenance dose, and only then the taper is initiated. The open-access article is worth exploring.

Ativan Added to EOL Set

Lorazepam s.c. has joined midazolam on our EOL order set. It has a longer duration of action than midazolam. Injectable lorazepam can be out of the fridge for up to 28 days, removing a barrier to its use. The order set can be accessed from the GeriatRx web portal.

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