

MEDICAL PHARMACIES NEW DRUGS

Drug Information and News for Health Care Providers

June 2016

INVOKANA™ (CANAGLIFLOZIN)

Invokana™ is a diabetes medication that has recently received provincial formulary coverage. It is available as an oral tablet in 100mg and 300mg doses. It can be used alone to treat type 2 diabetes or in the following combinations:

- With metformin or a sulfonylurea such as gliclazide
- With metformin and either a sulfonylurea or pioglitazone
- With insulin

Usually, Invokana™ would be added on to other drugs when control of blood glucose levels is not adequate. It is used once a day before the morning meal. It should not be used in people who:

- are receiving hemodialysis,
- have an eGFR* that is less than 45mL/minute, or
- have a history of diabetic ketoacidosis.

Invokana™ belongs to a class of drugs used for diabetes called sodium-glucose co-transporter 2 (or SGLT2) inhibitors. It decreases blood glucose levels by reducing resorption of glucose in the kidney, causing more glucose to be excreted in the urine. Dapagli ozin (Forxiga®) is the only other drug in this class that is available in Canada.

CONSIDERATIONS FOR YOUR RESIDENTS

While there are some benefits of Invokana™ for older individuals, there are many factors that limit the use of this drug in this population. Note that adverse effects are more likely to occur when the higher dose (300mg) is used and in people over 65 years of age.

WHAT TO MONITOR

To be proactive in preventing serious problems for your residents, it is important to monitor the following:

- **Blood pressure**, including changes in pressures when moving from sitting to standing or supine to sitting
- **Changes in volume status** (e.g., if a resident has a severe gastrointestinal illness or is otherwise dehydrated)
- **Kidney function**, as eGFR
- **Blood glucose and A1C**, as you would expect improvements when this drug is added to therapy
- **Potassium levels**, especially important if the resident has impaired kidney function or is taking an ACE inhibitor* (e.g., ramipril), ARB* (e.g., candesartan) or a potassium-sparing diuretic (e.g., spironolactone)
- **Signs of UTI or genital yeast infection**, as these are common side effects of Invokana™
- **Signs of digoxin toxicity** (including digoxin levels) in residents taking this medication with Invokana™; this may include changes in vision (e.g., blurred vision), increased heart rate, confusion, nausea and vomiting, loss of appetite

Note that a recent Health Canada warning has advised that all SGLT2 inhibitors can increase the risk of serious diabetic ketoacidosis (DKA) in both type 1 and type 2 diabetes. SGLT2 inhibitors should not be used for residents with type 1 diabetes. Monitor residents for symptoms of DKA such as excessive thirst, rapid breathing, confusion, change in urine odour, or loss of appetite.

Please refer to Invokana™ product monograph for more comprehensive information, including warnings and precautions.

References:

Invokana™ Product Monograph. Janssen Inc. January 2016.
 Sehgal V, Bajwa SJ, Sehgal R, Consalvo JA. Management of diabetes in the elderly with canagli ozin: A newer hypoglycemic drug on the horizon. *J Pharmacol Pharmacother* 2014;5:227-31.
 Government of Canada. Health. Recalls and Alerts. SGLT2 inhibitors [Invokana (canagli ozin), Forxiga (dapagli ozin), Xigduo (dapagli ozin/metformin), Jardiance (empagli ozin)] - risk of diabetic ketoacidosis. Available online at <http://healthycanadians.gc.ca/recall-alert-rappel-avis/hc-sc/2016/58404a-eng.php>. Accessed May 18, 2016.

Benefits	Why It Matters	Risks	Why It Matters
Hypoglycemia is rare	Less risk of falls due to low blood glucose	Hypotension	Increased risk of falls
Weight loss	Can benefit those who are overweight	Hypovolemia	Can lead to dehydration and falls; more common in people 75 years of age and older
		Hyperkalemia	Serious cardiac risks; potassium levels may be elevated if resident has poor kidney function or takes other medications that raise potassium levels
		Decreased kidney function	Risk of acute kidney injury

*eGFR = estimated glomerular filtration rate, ACE inhibitor = angiotensin converting enzyme inhibitor, ARB = angiotensin receptor blocker



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