Sitagliptin (Januvia) and Saxagliptin (Onglyza) (DPP-4 Inhibitors)

Sitagliptin (Januvia) and saxagliptin (Onglyza) are antidiabetic medications that work by blocking the DPP-4 enzyme, allowing for increased action of incretin hormones and increased release of insulin. These medications are only effective in the presence of insulin and can only be used in patients with type II diabetes. Keep in mind, however, DPP-4 inhibitors are considered adjunctive therapy for the treatment of diabetes and should only be used if monotherapy has failed to provide adequate blood glucose control. Side effects include upper respiratory infection, pancreatitis, and hypersensitivity reactions.



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-gliptin Suffix
Griffins
Medications in this category can be recognized by the “-gliptin” ending.

Mechanisms

DPP-4 Inhibitor
DiPPer (4) Fork in Inhibiting-chains
Sitagliptin inhibits an enzyme called dipeptidyl peptidase or DPP-4. By blocking this enzyme, sitagliptin increases the action of incretin hormones that work to stimulate insulin release and to decrease glucagon release after meals. Together, these actions prevent a patient from becoming hyperglycemic.

Increases Insulin Release
Up-arrow Insect-syringe Released
DPP-4 inactivates incretin hormones. When DPP-4 is blocked by sitagliptin; however, the action of incretin hormones is increased, thus increasing insulin release.

Indications

Type 2 Diabetes
Dyed-bead-pancreas in (2) Tutu
These medications are only effective in the presence of insulin and can only be used in patients with type II diabetes. Keep in mind that DPP-4 inhibitors are considered adjunctive therapy for the treatment of diabetes and should be used in conjunction with metformin, SGLT2 inhibitors, or others.

Side Effects

Pancreatitis
Pancreas-on-fire
Although rare, patients may develop pancreatitis. Signs and symptoms of this condition include severe abdominal pain and vomiting. Sitagliptin/saxagliptin therapy should be stopped immediately if these symptoms develop.

Upper Respiratory Infection and Inflammation
Upper Respiratory Tract Bacteria In-flames
Patients taking sitagliptin/saxagliptin may develop an upper respiratory infection or inflammation of the sinuses. Signs and symptoms of a URI include runny or stuffy nose, sneezing, sore throat, and a cough.

Stevens-Johnson Syndrome
Steve-Johns
Hypersensitivity reactions such as Stevens-Johnsons syndrome, anaphylaxis, and angioedema can occur. Sitagliptin/saxagliptin therapy should be stopped immediately if these conditions develop.

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Considerations

Used as Add-on Agents

Add (+) on Agent

According to the American Diabetes Association, DPP-4 inhibitors are to be used as add-on treatment options. They are indicated if monotherapy has failed to provide adequate blood glucose control.

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