Saxenda – an older GLP-1, with a new indication

For Type 2 diabetes mellitus

Liraglutide is a glucagon-like peptide-1 receptor agonist which was originally marketed in 2010 as Victoza, a daily product to treat type-2 diabetes mellitus. It is used as an adjunctive agent or alternative monotherapy for selected patients, including those who fail initial therapy with lifestyle intervention and metformin or who cannot take metformin.

This class of medication has an advantage over older insulin secretagogues, such as sulfonylureas or mgeglitinides, as they have a lower risk of causing hypoglycemia.

Liraglutide may be preferred as an additional antidiabetic agent or alternative first-line agents in patients with atherosclerotic cardiovascular disease (given liraglutide's demonstrated cardiovascular benefit) and/or in patients with an HbA1C relatively far from goal (>9%) and type 1 diabetes is not likely.

When used for type 2 DM, it is initially dosed at 0.6mg daily for 1 week then increased to 1.2mg daily; if optimal glycemic response is not achieved after an additional week of treatment, may increase further to 1.8mg daily. The lower initial dose of 0.6mg daily is intended to reduce GI symptoms.

For obesity

For use and adjunct to diet and exercise in obese patients or overweight patients with one or more weight-associate comorbidity (hypertension, dyslipidemia, obstructive sleep apnea). Considered a preferred pharmacologic weight-loss option in obese and overweight patient with type 2 diabetes mellitus, particularly in patients with atherosclerotic CVD.

Initial dosage is 0.6mg subcutaneously daily for one week, increase by 0.6mg daily at weekly intervals to a target dose of 3mg daily. In the event of a missed dose, the once daily regimen can be resumed with the next scheduled dose; if >3 days have passed since the last liraglutide dose, reinitiate therapy at 0.6mg/day to avoid GI symptoms and titrate accordingly. Dose inject subcutaneously in the upper arm, thigh, or abdomen. Administer without regard to meals or time of day. Pen may be stored in refrigerator or at room temperature. Do not freeze. Pen should be discarded 30 days after initial use.

Warning/Precaution

Warnings/Precautions

[US Boxed Warning] Dose-dependent and treatment duration-dependent thyroid C-cell tumors have developed in animal studies with liraglutide therapy; it is unknown whether liraglutide will cause thyroid C-cell tumors, including MTC, in humans, because the human relevance of liraglutide-induced rodent thyroid C-cell tumors has not been determined. Patients should be counseled on the potential risk of MTC with the use of liraglutide and informed of symptoms of thyroid tumors (eg, neck mass, dysphagia, dyspnea, persistent hoarseness). Use is contraindicated in patients with a personal or a family history of MTC and in patients with multiple endocrine neoplasia syndrome type 2 (MEN2).

Adverse Reactions

>10%

CVD – increased HR

CNS – headache (14%)

Endocrine and metabolic – hypoglycemia (2-3%) - note, blood glucose monitoring is not needed in non-diabetic patients

Gastrointestinal – nausea 39%, diarrhea (21%), constipation (19%), vomiting (16%)

Local – injection site reaction (3-14%)

Mechanism of action

Liraglutide is a long acting analog of human glucagon-like peptide-1 (GLP-1, an incretic hormone) which increases glucose-dependent insulin secretion, decreases inappropriate glucagon secretion, increases B-cell growth/replication, slows gastric emptying, and decreases food intake. Liraglutide administration also results in decreases in HA1c by approximately 1%. These agents work by activating the GLP-1R, rather than inhibiting the breakdown of GLP-1 as do DPP-4 inhibitors.

Prior authorization considerations

Some plans will cover the product without a prior authorization, but the vast majority will require certain criteria be met. Namely, body mass index above 30 kgy/m2 (obese) or 27 kg/m2 (overweight) in the presence of at least one weight-related comorbid condition (hypertension, dyslipidemia, type 2 diabetes mellitus or obstructive sleep apnea). The approved ICD-10 codes include E66.01. Some plan will allow the PA to approved for an initial period of 4 months and then 1 year thereafter. Of course, there are many plans that will require other oral products be tried first and that diet and exercise consults be documented along with other non-pharmacologic treatments were attempted. Be aware that the manufacturer Novo Nordisk does provide a manufacturer discount for eligible patients that can take upto $300 off the price of the product, if dispensed in 15ml quantities (1-month supply), and may be used in conjunction with a patient's commercial plan.

Some plans will deny any subsequent prior authorization requests if after 12 weeks at maximum tolerated dose or 16 weeks after initiation of therapy; if patient has not achieved at least 4% to 5% of baseline body weight.

Of course, there are many plans which exclude all weight management products, regardless of administration type, and some plans will only provide a small discount. In those cases, the manufacturer discount may be the only way to significantly decrease the price of the product.