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Patient Care + Research + Clinical Trials

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GLP-1 receptor agonists

Today (2023-Nov-23) in Canada 5 agents in the GLP-1 receptor agonist (RA) class are marketed. Prices listed below are before publicly available discounts.

tirzepatide available as "Mounjaro", a weekly injection, usual maintenance dose 5.0-15 mg ($11/day, a 20% discount is available here)
semaglutide available as "Ozempic", a weekly injection, usual maintenance dose 1.0 mg ($7/day) and "Rybelsus", a daily oral tablet, usual maintenance dose 14 mg daily ($7/day).
liraglutide (Victoza, Saxenda), daily injection, usual maintenance dose 1.8 mg daily ($7/day)
dulaglutide (Trulicity), weekly injection, usual maintenance dose 1.5 mg weekly ($5/day with coupon)
lixisenatide (Adlyxine), usual maintenance dose 10 ug daily ($5/day)

All currently marketed GLP-1 RAs are effective in lowering sugar and weight & reducing cardiovascular risk.

The final maintenance dose of GLP-1 RAs is determined by the presence or absence of GI side-effects, response to therapy (and cost). 30% of patients have strong responses both in A1c- and weight-lowering. 50% of patients have relatively modest responses to therapy. 10-15% of patients are intolerant of GLP-1 RAs because of nausea & vomiting.

With the exception of dulaglutide, the recommended starting dose of GLP-1 RAs is ¼ to ½ the usual maintenance dose (see above, dulaglutide starting dose is the same as the maintenance dose). Dose increases can be considered after 2 weeks (note - the manufacturers recommend after 4 weeks). If mild nausea occurs try maintaining dose for longer. If severe nausea or vomiting hold for 1 week and try ½ the dose associated with nausea and vomiting.

The GLP-1 RA effect on satiety is achieved through two mechanisms: central appetite suppression & delayed gastric emptying (patients feel full after meals). Blood glucose lowering is achieved both through weight loss (with increased insulin sensitivity) & through the independent effect of enhanced meal-related insulin secretion (the "incretin" effect).

In head-to-head studies tirzepatide is the most efficacious of the GLP-1 RA class for both glucose-lowering & weight reduction. In terms of cost, tirzepatide is the most efficacious of the

GLP-1 agents. For more on tirzepatide see this separate handout. Of the two formulations of semaglutide, injectable Ozempic is more cost-efficient than oral Rybelsus. When using the injectable form of semaglutide (Ozempic), when it is prescribed in a nominal dose of 1.0 mg weekly but taken by the patient at 0.5 mg weekly the cost is approximately $3.50/day: 0.5 mg weekly is the recommended maintenance dose for individuals with a financial barrier. Follow these special prescribing instructions (see https://bit.ly/3juysAZ) to ensure that your patient can take advantage of the cost savings.

Liraglutide in combination with insulin degludec (Xultophy, maximal dose of liraglutide 1.8 mg is achieved with 50 U degludec) & lixisenatide in combination with insulin glargine (Soliqua, 10 ug with 60 U) are useful agents whose market is yet to be determined.

Investigational GLP-1 therapies are available through clinical trials at BCDiabetes.

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