

Be Familiar with Meds for Pediatric Type 2 Diabetes

Empagliflozin (*Jardiance*), now FDA-approved in kids 10 and older, will transform pediatric type 2 diabetes treatment.

Pediatric type 2 diabetes is more aggressive than in adults...complications (kidney disease, etc) develop earlier. So expect meds to be started alongside lifestyle changes.

Med options for children are limited...approval of an SGLT2 inhibitor puts a new class of meds in our toolbox.

In the DINAMO study, empagliflozin (add-on to metformin and/or insulin) decreased A1c by about 0.8% vs placebo over 26 weeks.

Look out for hypoglycemia and urinary tract infections...these seem to be the most notable side effects from the trial results.

Based on mechanism, empagliflozin alone won't likely cause hypoglycemia...but we don't have monotherapy data in kids yet.

The same study also looked at linagliptin (*Tradjenta*), which was well tolerated...but did not significantly improve A1c. Expect to see metformin first, but only in the absence of diabetic ketoacidosis (DKA).

Count on insulin in marked hyperglycemia.

Educate about weight gain from insulin. Be aware that not all kids will need insulin long-term.

Think about titrating insulin off over 2 to 6 weeks by decreasing the insulin dose by 10 to 30% every few days once glucose targets are met and other meds are optimized.

It's too soon to say which add-on med is best, and cost may be prohibitive.

But lean toward empagliflozin or a GLP-1 agonist, such as dulaglutide (*Trulicity*) or liraglutide (*Victoza*). GLP-1 agonists also seem to significantly reduce A1c and may help with weight loss.

And lean away from DPP-4 inhibitors (linagliptin, etc), sulfonylureas, and thiazolidinediones...due to more side effects or potentially less benefit.

See our resource, *Drugs for Type 2 Diabetes*, for med costs, side effects, and more.

Keep in mind that childhood obesity, intrauterine exposure to diabetes, sedentary lifestyle, structural racism, and psychosocial factors play a significant role.

Key References:

- Laffel LM, Danne T, Klingensmith GJ, et al. Efficacy and safety of the SGLT2 inhibitor empagliflozin versus placebo and the DPP-4 inhibitor linagliptin versus placebo in young people with type 2 diabetes (DINAMO): a multicentre, randomised, double-blind, parallel group, phase 3 trial. *Lancet Diabetes Endocrinol.* 2023 Mar;11(3):169-181.
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- Shah AS, Zeitler PS, Wong J, et al. ISPAD Clinical Practice Consensus Guidelines 2022: Type 2 diabetes in children and adolescents. *Pediatr Diabetes.* 2022 Nov;23(7):872-902.

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