Beth Israel Lahey Health
Performance Network

Practical Prescribing Pearls

Top-ten take-home points for the treatment of type 2 diabetes

1. **All patients diagnosed with diabetes should make lifestyle changes, including diet changes and increased exercise, to prevent or delay disease progression**. Suggest making incremental changes in daily lifestyle as these changes can be overwhelming for many patients.

2. **Metformin remains the first-line medication option for patients with type 2 diabetes.** In patients who have been unable to tolerate metformin in the past, consider re-challenging by starting low and titrating slowly as tolerated. Metformin extended-release is better tolerated than immediate-release and should be considered the preferred formulation (generic Glucophage XR® is preferred due to more universal coverage and lower cost).

3. **The second drug added to a patient's regimen will depend on the predominant factor(s) complicating their diabetes treatment.** Determine first whether the patient is at high risk for ASCVD or CKD. If no, consider things like risk of hypoglycemia, need for weight loss, and cost.

4. **Medications that have demonstrated decreased risk of CVD include metformin, certain GLP-1 receptor agonists, and certain SGLT-2 inhibitors.** As of 2008, all new anti-diabetic agents must undergo clinical trials to demonstrate no significantly increased risk of CVD compared to placebo.

5. **GLP-1 receptor agonists have also demonstrated benefits with regard to weight loss and an expected A1c reduction of 1.0-1.5**%. This class of medication is expensive, as there are no generic alternatives, and is currently available only as subcutaneous injections. The first oral GLP-1 agonist will be available on the market in late 2019 or early 2020.

6. **SGLT-2 inhibitors have demonstrated benefits in regard to slowing the progression of CKD (specifically canagliflozin) and a decreased risk of hospitalizations from heart failure**. They have also demonstrated more modest reductions in weight and A1c (0.7-1.0%). These medications are also expensive as there are no generic alternatives. Patients should be monitored for side effects related to change in volume status and increased risk of urogenital infections.

7. **The best time to start an insulin conversation with patients is around the time of diagnosis to reduce fears and stigma.** Many patients with type 2 diabetes progress to the point where insulin therapy is necessary to reach their goals. Patients may feel they have "failed" treatment if they need insulin therapy, or may have underlying concerns regarding frequent fingersticks, injections, and hypoglycemia.

8. **New longer-acting basal insulins are available.** They come available as higher concentrations to reduce large volume injections for patients on high doses. They also allow for dose timing flexibility as they can last longer than 24 hours. Studies have shown lower risk of hypoglycemia compared to shorter-acting basal insulins.

9. **Continuous glucose monitors (CGM) are available for patients on multiple daily insulin doses who need multiple daily fingersticks.** Specific criteria for Medicare coverage of CGM include patients doing at least 4 fingersticks per day, or 3 or more insulin injections, or a continuous insulin pump.

10. **Consider collaborating with experts in different aspects of diabetes treatment for the most comprehensive approach to treatment.** Treatment of diabetes involves a whole health care team including doctors, nurses, pharmacists, and dieticians.