Complimentary CME/CE

Initiating Insulin in Patients Who Fear Needles: Using Evolving Basal Insulins to Improve Adoption

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Activity Overview

In this case-based webcast, meet Robert, a 49-year-old man with type 2 diabetes. His glycated hemoglobin (HbA1C) is 10.8 % and he is taking 2 oral agents, but he is hesitant to try injectable therapies because of his fear of needles. Faculty experts Vivian Fonseca, MD, and Timothy Reid, MD, discuss how they would approach this patient case scenario, including identifying an insulin treatment plan for Robert that takes into account his fear of needles and other concerns about starting insulin.

Target Audience

This activity is intended for family practice physicians, general practice physicians, internal medicine physicians, primary care physicians, nurse practitioners, physician assistants, and nurses.

Instructions to Receive Credit

To receive credit, read the introductory CME/CE material, watch the webcast, and complete the evaluation, attestation, and post-test, answering at least 70% of the post-test questions correctly.

Faculty

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The content of this activity has been peer reviewed and has been approved for compliance. The faculty and contributors have indicated the following financial relationships, which have been resolved through an established COI resolution process, and have stated that these reported relationships will not have any impact on their ability to give an unbiased presentation.

Faculty Disclosure Statements

Vivian Fonseca, MD
Consulting fees/advisory boards: Bayer HealthCare Pharmaceuticals, Boehringer-Ingelheim Pharmaceuticals, Inc.
Contracted research: Asahi Kasei Pharma Corporation, AstraZeneca, Eli Lilly and Company, Intarcia Therapeutics, Inc., Novo Nordisk, Sanofi Genzyme, Takeda Pharmaceuticals North America, Inc.

Timothy S. Reid, MD
Consulting fees/advisory boards: AstraZeneca, Intarcia Therapeutics, Inc., Janssen Pharmaceuticals, Inc., Novo Nordisk, Sanofi Genzyme
Fees received for promotional/non-CME activities: Janssen Pharmaceuticals, Inc., Novo Nordisk, Sanofi Genzyme

The peer reviewers and activity planners have no financial relationships to disclose.

Learning Objective

Upon completion, participants should be able to:

- Integrate treatment plans that balance efficacy and safety data for long-acting basal insulin with patient reservations regarding injectable therapy

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Meet Robert

- 49-year-old man
- Obese; has hypertension, hyperlipidemia, and a 2-year history of T2D
- Current HbA1C of 10.8%
- Reports symptoms of nocturia, fatigue, and clouded vision
- Currently taking metformin and a sulfonylurea
- Has a substantial fear of needles and is hesitant to try any injectable therapy

Rationale for Insulin Therapy in T2D

- Progressive nature of the beta-cell dysfunction in T2D—important cause of secondary failure of oral therapy
  - For some patients, it is the only therapy that will get blood glucose to target
- Proven to be effective
- Can be continually titrated
- Usually well accepted by patients IF enthusiastically recommended by healthcare provider
  - Small needles and insulin pens

Defronzo RA. *Diabetes*. 2009;58:773-95.
Funnell MM, et al. *Clinical Diabetes*. 2007;25:36-8.
Inzucchi SE, et al. *Diabetes Care*. 2015;38:140-9.

Why Does Robert Need to Start Insulin Now?

- ☒ If noninsulin monotherapy at maximum tolerated dose does not achieve or maintain the HbA1C target after 3 months, basal insulin can be considered
- ☐ Insulin therapy is recommended for newly diagnosed patients with T2D who are symptomatic and/or have HbA1C ≥ 10% and/or blood glucose levels ≥ 300-350 mg/dL
- ☒ For patients with T2D who are not achieving glycemic goals, insulin therapy should not be delayed

Davies MJ, et al. *Diabetes Care*. 2018. [Epub ahead of print].
Inzucchi SE, et al. *Diabetes Care*. 2015;38:140-9.
ADA. *Diabetes Care*. 2018;41:S73-85.

Things to Consider

- Does Robert have any other fears or barriers to starting insulin treatment other than his fear of needles?

Assessing and Addressing Common Psychosocial Barriers to Injectable Therapy

- Many patients fear:
  - Needles
  - Painful injections
  - Hypoglycemia
  - Weight gain
  - Adverse effects on lifestyle
  - Loss of personal freedom and independence
  - Complications caused by insulin
  - Effects on relationships with family and friends
- Patients may believe that taking insulin means their diabetes has gotten worse or indicates a personal failure

Funnell MM, et al. *Clinical Diabetes*. 2007;25:36-8.
Kruger DF, et al. *Diabetes Metab Syndr Obes*. 2015;8:49-56.

Barriers to Insulin Initiation: The Clinician Side of the Equation

- Misperceptions
  - The need to advance treatment is never-ending (therapeutic fatigue)
  - Insulin: most appropriate for end-stage treatment
  - Patients don't want to use injectables
- Reality-based concerns
  - Time demands of instructing patients about injections
  - Unfamiliarity with the variety of devices (eg, various pens)
- Knowledge gaps
  - Role of glucotoxicity in disease progression and therapeutic failure
  - Typical weight changes (gain) with insulin: misconceptions regarding insulin and appetite
  - Familiarity with ADA/EASD and AACE guidelines
  - "If only patients would exercise and lose weight, then they wouldn't need insulin"

Ross SA. *Am J Med*. 2013;126:S38-48.
Kruger DF, et al. *Diabetes Metab Syndr Obes*. 2015;8:49-56.

Responding to Patient Fears and Misconceptions About Insulin

1. Less than 10% of insulin-naïve patients feel insulin is beneficial
   - In the past, insulin was started too late when complications had already occurred
   - Clinical trials show the benefit of blood glucose control in decreasing the risk of microvascular complications
2. 50% see insulin as a punishment and self-blame
   - Explain that a decrease in insulin production is a natural progression of diabetes
3. 50% fear injections
   - Explain that needle size is small and pain is minimal
   - Start with 1 injection a day and have patient self-inject in the office
   - Prescribe an insulin pen
   - Try a 2-week insulin experiment

Polonsky WH, et al. *Clin Diabetes*. 2004;22:147-50.
Funnell MM, et al. *Clinical Diabetes*. 2007;25:36-8. Kruger DF, et al. *Diabetes Metab Syndr Obes*. 2015;8:49-56.

Options for Robert: Overview of Available Basal Insulins

- Long-acting formulations
  - Glargine U-100
  - Detemir U-100
- Ultra-long-acting formulations
  - Degludec U-100 and U-200
  - Glargine U-300
- Benefits
  - Efficacy
  - Most convenient initial insulin regimens (start with once-daily injection)
- Limitations
  - Risk of hypoglycemia
  - Weight gain
  - Injection-site reactions

ADA. *Diabetes Care*. 2018;41:S73-85. Prescribing information.

Differences Between Long-Acting and Ultra-Long-Acting Insulin

- Results from clinical studies in insulin-naïve patients
  - Efficacy
    - Similar reductions in HbA1C were observed
  - Adverse effects
    - Compared with glargine U-100, a lower hypoglycemia risk was observed with glargine U-300 and degludec
- Pharmacologic differences
  - Degludec: forms multihexamer chains after injection to slow absorption
  - Glargine U-300: forms a precipitate after injection to slowly release insulin from a subcutaneous depot

Rodbard HW, et al. *Diabet Med*. 2013;30:1298-304.
Bolli GB, et al. *Diab Obes Metab*. 2015;17:386-94.
Lamos EM, et al. *Ther Clin Risk Manag*. 2016;12:389-400.

Differences Between Long-Acting and Ultra-Long-Acting Insulin

- Duration of action
  - Detemir and glargine U-100: ≤ 24 hours (varies among patients and with dose; may need to be taken twice daily)
  - Degludec U-200: 42 hours (once-daily dosing)
  - Glargine U-300: > 30 hours (once-daily dosing)
- Concentration
  - Lower volumes are associated with less painful injections

Lamos EM, et al. *Ther Clin Risk Manag*. 2016;12:389-400.

Building Relationships With Patients

- Strategies to build a relationship with Robert
  - Gain trust
  - Make time
  - Have confidence
  - Be knowledgeable
  - Be accessible (eg, questions, titration, advice)
  - Use a short follow-up time after starting insulin (2 weeks or so)

Conclusion

- There are many issues to cover when it is time to start insulin therapy, which can be overwhelming for both the patient and clinician
- Although patient aversion to using injectable therapy may be the first spoken objection, there are usually more subtle and important issues that need to be addressed with the patient
- Successful initiation of injectable therapy requires a close collaboration between patients and their diabetes care team

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Abbreviations and Acronyms

HbA1C = glycated hemoglobin
T2D = type 2 diabetes