Insulin Therapy: The Question This Issue

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Note: The goal of this section of *Insulin* is to provide answers to frequently asked questions regarding insulin therapy in diabetes. Readers are encouraged to submit their own questions by visiting www.InsulinJournal.com or by e-mailing insulin@elsevier.com. One or more questions will be addressed each issue.

QUESTION:

What is the evidence supporting early "insulinization" therapy in type 2 diabetes mellitus (DM)?

ANSWER:

This question could refer to the use of insulin in 2 different groups of patients with type 2 DM: newly diagnosed, drug-naive patients and those already taking oral hypoglycemic agents with an earlier diagnosis of diabetes. Thus, both groups will be addressed here; a complete review of the literature is beyond the scope of this response. Readers are encouraged to see a recent article by Vinik[1] for a review of the related evidence.

Insulin is not only the most powerful, but also the most underutilized, agent for the treatment of diabetes. Failure to achieve target glycosylated hemoglobin (A1C) levels for a large percentage of our patients can be attributed to the delay in starting insulin therapy.

Newly Diagnosed or Drug-Naive Patients

Several studies have shown that a short course of intensive insulin therapy leads to sustained euglycemia in patients with newly diagnosed type 2 DM and severe hyperglycemia. In one study,[2] 138 patients with newly diagnosed type 2 DM were hospitalized and treated with insulin pump therapy for 2 weeks. The remission rates (ie, the percentages of patients who maintained near-euglycemia after treatment) were as follows: 3 months, 72.6%; 6 months, 67.0%; 12 months, 47.1%; 24 months, 42.3%. The investigators concluded that short-term, intensive insulin therapy can induce long-term near-euglycemia in patients with newly diagnosed type 2 DM.

The author typically uses initial insulin therapy in patients with extremely high blood glucose levels (eg, A1C >10.0%), who are having acute symptoms of hyperglycemia (eg, polyuria, polydipsia, weight loss, blurred vision). The author typically uses premixed insulin twice daily in such cases because this regimen is easy to start and titrate but still provides almost complete basal-bolus coverage. The author then slowly converts the patient to oral medications a few months later, after the acute glucotoxicity and lipotoxicity have resolved.

Patients Already on Medication

A recent consensus statement issued by the American Diabetes Association and the European Association for the Study of Diabetes[3] recommended adding basal insulin to a patient's regimen if the patient's A1C remains >7.0% despite lifestyle changes and administration of metformin. Thus, it is quite acceptable to use basal insulin as second-line therapy after metformin.

Houlden et al[4] conducted a 24-week, randomized trial in 366 patients with type 2 DM to compare treatment satisfaction (TS) and quality of life (QoL) using an early insulinization strategy with insulin glargine or a conventional strategy of oral therapy adjustment. The reduction in A1C was greater in the glargine arm than in the oral-therapy arm without an increase in complaints related to hypoglycemia. Improvements in TS and QoL (relative to baseline) were seen in both treatment arms; however, the improvements were greater in the glargine arm. Thus, it may be beneficial to start basal insulin sooner rather than continue adding and titrating oral medications.

One subgroup of patients with type 2 DM who stand to benefit substantially from early insulinization are those with latent autoimmune diabetes in adults (LADA). It is estimated that ~10% of patients with diabetes may have LADA but are often misdiagnosed and started on oral medications without any improvement in glycemic control. Patients with high titers of anti-glutamic acid decarboxylase (GAD) antibodies are especially at risk. Therefore, anti-GAD antibodies should be measured in select patients who do not fit the typical profile of a patient with type 2 DM. Insulin should be started much earlier in such patients.

REFERENCES

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