How Can Insulin Therapy Be Improved?

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Question:

How can I help patients with type 2 diabetes overcome barriers to insulin therapy?

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Why Is This Patient Having So Much Trouble With Insulin?

When helping a patient manage insulin therapy, the first step is to identify the barriers that are affecting that particular individual. The good news is 2-fold: 1) each of these barriers can be overcome[1]; and 2) patients' attitudes towards insulin therapy have been shown to improve once they actually initiate it.[2] Barriers to insulin therapy often include 1 or more of the following characteristics listed below.[1,2]

Patient Sense of Failure

Combating this barrier begins with the patient's provider, pharmacist, and other healthcare workers making a commitment to never describe insulin as" the thing that will happen" if the patient does not adhere to his/her prescribed medication regimen, diet, or exercise plan. Insulin should not be regarded as a threat but instead as a tool. Patients who are diagnosed with type 2 diabetes should be educated that oral medications are useful, especially early in the course of the disease. Over time, however, insulin very well may be needed in order to control their blood sugar adequately. Patients should be told that even if they are 100% adherent to all prescribed medications, diet, and exercise, insulin may still be needed and that it is nothing to fear. Insulin is the most effective "tool" in the blood sugar control "toolbox."

Fear That Insulin Causes Serious Complications

This barrier is usually a result of a patient having known someone who began insulin late in the course of his/her disease who then suffered a complication such as initiating dialysis or undergoing an amputation. This barrier can be overcome with education. It should be explained to the patient that the coincidence he/she observed was not a result of insulin but was more likely a result of long-standing diabetes that had not been adequately controlled. Education should be provided to assure the patient that insulin, by helping bring blood sugar under control, may actually help minimize complications related to diabetes.

Fear of Social Embarrassment and Perceived Complexity of Insulin Regimens

For many patients with type 2 diabetes, it is possible to gain improved blood sugar control with either once-daily basal insulin (especially if oral secretagogues are continued and still effective in the patient) or twice-daily basal/bolus or mixed analog therapy. This means that, for many type 2 patients, insulin can be worked easily into their daily routine and most doses can be given in the comfort of their homes. For those patients who must inject mealtime insulin and are concerned about what do to when going out to eat, pen devices commonly used today make carrying and administering insulin on the go easier than ever before.

Additionally, some patients may be surprised to find that insulin is simply injected into the fatty tissue of their abdomen, thigh, or upper arm. Some are concerned they may have to "find a vein." With a little education and situational counseling, both the fear of social embarrassment and perceived complexity of insulin regimens can be overcome.

Needle Anxiety

Most patients overcome this barrier once they are shown the short, fine needles used to administer insulin. Even more overcome this barrier once they receive education, practice, and inject themselves the first time. For others, injection aids and needle concealment technologies may be useful.

Fear of Weight Gain

Metformin, known to promote weight loss in patients with diabetes, should be continued when insulin is added.[3] Exenatide has also been studied in combination with insulin glargine and found to produce a 1.8-kg weight loss as compared with a 1-kg weight gain with placebo plus insulin glargine.[4] Patients should also be encouraged to exercise and maintain proper portion control in order to attenuate the possibility of weight gain once insulin is started. Weight gain has also been found to be significantly less with basal insulin initiation as compared with prandial or biphasic insulin initiation.[5]

Fear of Hypoglycemia

Patients should be educated about the symptoms and proper management of hypoglycemia if they are going to be receiving insulin. Patients should also be educated about how to prevent hypoglycemia. Key educational points include:

- The time-action profile of the insulin they are using and when to time meals and exercise;
- The importance of maintaining consistent carbohydrate intake (ie, avoid skipping of meals) and maintaining a schedule for meals and snacks when taking basal and biphasic insulins;
- Proper glucose monitoring and tracking of trends;
- The importance of avoiding alcohol binging;
- Proper sick day management; and
- When to consume additional carbohydrates prior to, during, and after exercise.

Patients can be encouraged that the newer insulin analogs have time-action profiles that are more similar to endogenous insulin as compared with the older insulin products making them less likely to cause hypoglycemia problems.

Cost of Therapy

For those patients without insurance or means to purchase the insulin that they need, patient assistance programs are available. Companies are making insulin more affordable. For example, Lilly and Wal-Mart have teamed together to provide Humulin® N (NPH) and regular and 70/30 human insulins for about $25 per vial.

Conclusion

Education is key in helping patients overcome barriers to insulin therapy and achieve desired treatment outcomes. Patients should be encouraged to discuss any concerns about insulin therapy with their healthcare professionals.

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