Diabetes insulin resistance reversal.

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Abstract

Hypoglycemia, produced by insulin, a sulfonylurea, or glided therapy, combined with weakened defences against dropping plasma glucose concentrations, is the limiting factor in diabetes glycaemic management. It causes recurrent morbidity in the majority of persons with type 1 diabetes and many people with advanced type 2 diabetes, and it can be fatal in some cases. The compromised defences are loss of a decrease in insulin and loss of an increase in glucagon and attenuation of an increase in epinephrine as glucose levels fall, resulting in defective glucose counter-regulation and impaired awareness of hypoglycaemia due to an attenuated sympathoadrenal response, possibly caused by recent antecedent hypoglycaemia, prior exercise, or sleep, among other mechanisms.

Keywords: Hypoglycaemia, Diabetes, Hypoglycaemia unawareness, Patient education.

Introduction

The history of diabetes hypoglycaemia

Classification and frequency of hypoglycaemia in diabetes

Diabetes is characterised by hypoglycaemia. According to population data, 30-40% of persons with type 1 diabetes have one to three bouts of severe hypoglycaemia per year; those with insulin-treated type 2 diabetes have around one-third that amount. In both types of diabetes, the incidence of any type of hypoglycaemia is 50 times higher than those of severe hypoglycaemia. The incidence of hypoglycaemia increases with diabetes duration due to therapy with a sulfonylurea, glinide, or insulin, as well as weakened physiological and behavioural defences against dropping plasma glucose concentrations. Clinical hypoglycaemia is defined as a plasma glucose concentration that is low enough to elicit symptoms and/or indicators, such as impaired brain function. The hypoglycaemic thresholds for symptoms and other hypoglycaemic manifestations move to Diabetes is characterised by hypoglycaemia [1,2].

Diabetes hypoglycaemia prevention

The problem of iatrogenic hypoglycaemia can only be treated if the diabetes health-care provider, the patient, and the carers identify it. When administering a sulfonylurea, glinide, or insulin to a patient, it is critical that the provider acknowledges the likelihood of real, or feared, hypoglycaemia and allows the patient and those close to the patient to share their views and thoughts. The provider must discuss with patients the frequency and timing of hypoglycaemic episodes of any severity, look for evidence of asymptomatic episodes by asking whether others tell the patient he or she is hypoglycaemic and by directly asking close acquaintances, and review SMPG (and CGM) data with the patient to look for evidence of hypoglycaemia [3].

Structured education coupled with scrupulous avoidance of hypoglycaemia.

In addition to basic diabetes education that includes the principles of nutrition, all people with diabetes treated with a sulfonylurea, a glinide, or insulin and not only should those treated with insulin receive structured education about hypoglycaemia and how to avoid it. The therapeutic objective is to minimize the number of episodes of hypoglycaemia and their severity and duration without promoting hyperglycaemia and raising A1C levels. Indeed, the goal is to reduce both hypoglycaemia and A1C levels. This patient education must cover a broad range of information and skills training as well as include a motivational element [4,5].

Conclusion

Hypoglycaemia is a major limiting factor in tight glycaemic management of diabetes and may increase vascular events in addition to other possible detrimental effects. Glycaemic control should be individualized based on patient characteristics with some degree of safety. Recognition of hypoglycaemia risk factors, blood glucose monitoring, selection of appropriate regimens, education programs for healthcare professionals and patients with diabetes are the major issues to maintain good glycaemic control, minimize the risk of hypoglycaemia, and prevent long- term complications.

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