

Treatment Options for Patients with Type 2 Diabetes Mellitus during the Fasting Month of Ramadan

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Abstract

During Ramadan, Muslims fast from sunrise (Sahur) to sunset (Iftar) and are required to abstain from food and fluids, including oral and injectable medications. Patients with diabetes who fast during Ramadan are at risk of developing hyperglycemia with increased risk of ketoacidosis, hypoglycemia, dehydration and thrombosis. Pre-Ramadan education and preparation of a fasting patient are essential to reduce severe complications. This review paper summarizes studies to date on oral and injectable medications available for patients with type 2 diabetes during Ramadan fasting, as well as recommendations on management of these patients during Ramadan. Although there is limited data on the use of Metformin, Acarbose and Thiazolidinedione in Ramadan, they appear to be safe. Sulphonylurea, especially Glibenclamide, is associated with higher risk of hypoglycemia during Ramadan fasting, hence may need adjustment in dosing and timing. The incretin group and SGLT2 inhibitor use during Ramadan fasting is associated with low risk of hypoglycemia with no increased adverse events. Insulin regimes need to be individualized for patients who fast during Ramadan.

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Key words: Anti-diabetic medication dose adjustment; Iftar (sunset), Muslims; Sahur (sunrise); Treatment modification

Case Study

A is a 49-year old gentleman who has type 2 diabetes (T2D), hypertension and dyslipidaemia for 8 years. His treatment for T2D are Metformin 1g b.d., Gliclazide 160mg b.d. and nocturnal s/c Insulatard 12u. His body mass index is 30.8kg/m². His latest blood results reveal HbA1c of 8.6%, fasting blood glucose 7.5mmol/L, creatinine 118umol/L. During the previous Ramadan, he experienced a few episodes of hypoglycaemia, requiring him to break his fast. He wishes to fast for this Ramadan.

Introduction

Ramadan fasting is one of the 5 pillars of Islam. The fast is between sunrise (Sahur) and sunset (Iftar), i.e.

the start of the fast is at sunrise and it ends at sunset; essentially during the period of daytime. During the fast, Muslims are required to abstain from food (including fluids), as well as oral and injectable medications. The estimated number of diabetic Muslims who choose to fast every year is close to 150 million worldwide,¹ which makes it one of the most challenging conditions to manage.

Prolonged fasting in a patient with T2D is associated with increased medical risks, especially hyperglycaemia, hypoglycaemia, dehydration and thrombosis. Nevertheless, despite these risks and the fact that patients with T2D are exempted from fasting, the majority of Muslim diabetic patients still choose to

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