Update to South Asian consensus guideline: Use of newer insulins in diabetes during Ramadan

Revised Guidelines on the use of insulin in Ramadan


Abstract
This guidance is an update to the South Asian Consensus Guideline: Use of insulin in Diabetes during Ramadan, published in the Indian Journal of Endocrinology and Metabolism in 2012. A five-country working group has collated evidence and experience to suggest guidelines for the safe and rational use of insulin degludec (IDeg) and insulin degludec aspart (IDeg Asp) during Ramadan. The suggestions contained herewith are based on the pharmacokinetic and pharmacodynamics properties of these novel insulins.

Keywords: Aspart, Degludec, Degludec aspart, Diabetes, Hypoglycaemia, Insulin, Ramadan.

Introduction
Newer insulins have been introduced in the recent years. Ultra long acting insulin degludec (IDeg) and its co-formulation with a rapid acting prandial insulin, aspart (Insulin degludec aspart) (IDeg Asp) are now available in many countries which observe Ramadan.1,2 This development creates the need to discuss the pragmatic and safe usage of these drugs in Ramadan.

Insulin Degludec and Degludec Aspart
The holy fast of Ramadan entails dusk-to-dawn fasting for one month. The period of fast may range from 12 to 17 hours, depending on the latitude and time of year.3 This predisposes to hypoglycaemia.4 The peak less, ultra-long acting pharmacokinetics of IDeg, coupled with its inherently low variability, makes it a suitable insulin preparation for use in Ramadan.1 The IDeg Asp co-formulation, which contains 70% degludec with 30% coverage also offers post-prandial coverage with aspart, offers similar benefits of lower risk of hypoglycaemia, and can be used in once daily or twice daily regimes.2 Theoretically, this makes it a perfect choice for use during Ramadan as well. However, no randomized controlled trials have been conducted with these insulins in the setting of Ramadan till date.

Guidance for Use in Ramadan
Published data on the use of IDeg and IDeg Asp is scarce. A single centre observational trial from India reports the safe use of these drugs in 6 subjects, and describes the process of informed, shared decision making and Ramadan-focused counseling/follow up which accompanied their prescription.5 This adds to the guidance provided earlier from South Asia.6 Based upon this, and upon collated experience over one year, we suggest the following:

- Risk stratification, pre Ramadan counseling and Ramadan focused structured education are similar for all insulins, including IDeg and IDeg Asp
- IDeg and IDeg Asp should be considered drugs of choice for use as basal and dual action insulin before and during Ramadan. This observation is based upon the pharmacokinetic and clinical trial data available.
- If insulin is to be initiated in type2 diabetes it should be started at least 10-12 weeks prior to start of Ramadan
- If preexisting insulin regimes are to be interchanged (switched) to IDeg or IDeg Asp, this should be accomplished at least 4-6 weeks prior to Ramadan
- A 20-25% reduction in dose of IDeg or IDeg Asp may be necessary during Ramadan. This guidance is based upon published observational data and collective experience.

Correspondence: Sanjay Kalra. Email: brideknl@gmail.com
I Deg can be administered at any time of the day. For reasons of prudence, we suggest that it be injected after iftar.

I Deg Asp can be injected with meals, once daily (depending upon the major meal; either iftar or suhur) or twice daily, or once daily along with an extra dose of insulin aspart. A proper dietary history helps in deciding the initial dose and regime.

If twice daily I Deg Asp is required, keep the iftar dose the same as the earlier dinner dose. A dose reduction of 25-30% may be required at suhur, as compared to the pre-Ramadan breakfast dose.

Alternatively, the pre Ramadan dinner dose may be halved and shifted to suhur, while the pre Ramadan breakfast dose may be taken at iftar.

One dose of I Deg Asp may be taken with suhur, along with one dose of insulin aspart at iftar, to cover the high carbohydrate content of the iftar meal.

Oral hypoglycemic drugs being administered in combination with insulin should be modified as per existing guidelines.

Monitor glucose levels prior to suhur and iftar. Once these are stabilized, monitor postprandial glucose levels to ensure comprehensive control.

**Conclusion**

Pragmatic usage of modern insulins with beneficial pharmacokinetic and pharmacodynamic properties, which do not necessitate strict 3+3 meal patterns, may help Muslim believers fast in a safe and fulfilling manner. This guidance may also be of help to adherents of other religions, who follow fasts unique to their faith.

**References**