Frequently asked questions for safe fasting in Ramadan: How to adjust drugs?

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Can a diabetic patient fast?
Most of the uncomplicated diabetic patients can fast during Ramadan safely. But for safe fasting patients need to go for the followings:
- Pre-Ramadan assessment at least three months before Ramadan
- Ramadan focused structured education & motivation
- Patient centered individualized management plan
- Proper follow-up

Physician’s Role for safe fasting
Guidance and advice to minimize the risk of hypoglycemia:
- To take Suhur close to Suhur time
- To keep the same calorie during Ramadan as before
- To change in the schedule, amount and composition of meals
- To reduce physical activity during the day time; however physical exercise can be performed about one hour after Iftar

What are Pre-Ramadan assessment at least 3 months before Ramadan?
- Assessment of glycemic status
- Assessment of complications & co-morbid conditions
- Assessment of patient’s ability

Individualization
Care must be individualized
The management plan will differ for each specific patient

General advice for those who wants to fast
First consultation with a doctor for pre Ramadan medical assessment & education
Practice fasting in Shaban first
With the approval of physician, switch to either long acting or twice daily medication

Elderly patients on NSAID should have frequent monitoring of renal functions
Anticoagulant and Antiplatelet medications should be given at night

What are Pre-Ramadan assessment at least 3 months before Ramadan?
- Assessment of glycemic status
- Assessment of complications & co-morbid conditions
- Assessment of patient’s ability

Patients who are advised not to fast according to the International Ramadan Advisory Board consisting of Medical Experts and Religious Scholars
- Conditions related to diabetes:
  - Advanced nephropathy
  - Severe retinopathy
  - Autonomic neuropathy
  - Hypoglycemic unawareness
  - Major macrovascular diseases
  - Recent hyper-osmolar state or DKA
  - Poorly controlled diabetes (Mean RBG> 300)
  - Multiple insulin injections per day
- Physiological conditions:
  - Pregnancy
  - Lactation
- Co-existing major medical conditions such as:
  - Acute peptic ulcer
  - Severe Pulmonary Tuberculosis
  - Severe infection
  - Severe bronchial asthma
  - Recurrent stones formation
  - Cancer with poor general condition
  - Overt cardiovascular diseases (Recent MI)
  - Severe psychiatric conditions
  - Hepatic dysfunction (liver enzymes > 2 × ULN)

*Tips: Individualization is very important

What about diet and exercise?
Diet in Ramadan
Drink more water at night to avoid dehydration
Avoid sugar and sugar containing drinks specially during Iftar (sweetener can be used)

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Avoid heavy Iftar
Keep same calorie as before Ramadan
Take complex carbohydrate at Suhur
Take Suhur as late as possible

Exercise in Ramadan
Physical activity should be reduced during day time
Exercise can be performed for an hour after Iftar or after Tarawih
Increased prayer during Ramadan should be taken into account

How to adjust drugs?

For oral anti Diabetic Drug

<table>
<thead>
<tr>
<th>Before Ramadan</th>
<th>During Ramadan</th>
</tr>
</thead>
<tbody>
<tr>
<td>No change is needed</td>
<td>Modify time &amp; intensity of exercise</td>
</tr>
<tr>
<td>Ensure adequate fluid intake</td>
<td></td>
</tr>
<tr>
<td>Metformin 500 mg thrice daily</td>
<td>At Iftar: 1,000 mg At Suhur: 500 mg</td>
</tr>
<tr>
<td>DPP4 inhibitor</td>
<td>As usual at night</td>
</tr>
<tr>
<td>SGLT2 inhibitor</td>
<td>As usual at night</td>
</tr>
<tr>
<td>Glinide</td>
<td>As usual at night</td>
</tr>
<tr>
<td>Sulfonylurea Once Daily: Morning dose</td>
<td>At Iftar: Full Morning dose</td>
</tr>
<tr>
<td>Sulfonylurea Twice Daily: Morning dose</td>
<td>At Suhur: ½ Evening dose</td>
</tr>
</tbody>
</table>

* Tips: DPP-4 inhibitors are less hypoglycemic in Ramadan. Modern sulfonylurea (gliclazide MR and glimepiride) is better compared to conventional one considering risk of hypoglycemia. Avoid glibenclamide in Ramadan

For insulin

<table>
<thead>
<tr>
<th>Before Ramadan</th>
<th>During Ramadan</th>
</tr>
</thead>
<tbody>
<tr>
<td>Premixed insulin 30</td>
<td></td>
</tr>
<tr>
<td>Morning: (30 U)</td>
<td>At Iftar: Full Morning Dose (30 U)</td>
</tr>
<tr>
<td>Dinner: (20 U)</td>
<td>At Suhur: ½ Dinner Dose (10 U)</td>
</tr>
<tr>
<td>Split Mixed (R+N)</td>
<td></td>
</tr>
<tr>
<td>R+0+R</td>
<td>R+0+50%of R</td>
</tr>
<tr>
<td>N+0+N</td>
<td>N+0+50%of N</td>
</tr>
<tr>
<td>R+R+N</td>
<td>R+R+50%of R</td>
</tr>
<tr>
<td>0+0+N</td>
<td>0+0+50%of N</td>
</tr>
<tr>
<td>Basal Analogue</td>
<td>At the same time</td>
</tr>
</tbody>
</table>

* Tips: Insulin Analogues are less hypoglycemic compared to conventional insulin. Premixed Analogues can be given just before meal.

Can a patient monitor blood sugar while fasting?

Islam allows diabetics to have regular blood test while fasting

Patients should monitor their blood glucose even during the fast to recognize subclinical hypo and hyperglycemia

If blood glucose is noted to be low (<70mg/dl), the fast must be broken

If blood glucose is noted to be (>300mg/dl), ketones in urine should be checked & medical advice sought

Conclusion

Uncomplicated type 2 diabetic patients can fast during Ramadan safely

Pre-Ramadan education and motivation is very important to prevent diabetic related complications

Islam allows diabetics to have regular blood test while fasting

Fasting along with regular prayer have been proved to aid in better control of diabetes

Individualization & frequent monitoring of glycemia can significantly reduce major risks associated with fasting in Ramadan.