Diabetes and Ramadan

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Walsall
• Islamic principles
• Fasting & Ramadan
• Prevalence
• Risks
• Education
• Medication
• Take Home Messages
5 Pillars of Islam

- Shahadah (Faith)
- Salat (Prayer)
- Zakat (Charity)
- Sawm (Fast)
- Hajj (Pilgrimage)
History of fasting

- Fasting has been practiced for centuries in connection with religious ceremonies.
- Fasts are observed among Christians, Jews, Muslims, Confucianists, Hindus, Taoists, Jainists and Buddhism
Pre-dawn meal

Sehri
Sunset meals

Iftar
Ramadan: a lunar month

- 2007: September 13 – October 12
- 2008: September 1 – September 30
- 2009: August 21 – September 19
- 2010: August 11 – September 9
- 2015: June 18 – July 17
Fasting

• For Muslims fasting is a time to go without
  – food
  – Liquids
  – Tobacco
  – sexual activity
  – and medication
    • including oral, inhaler and injection medications
    • between the hours of sunrise to sunset.

• Can eat / drink all night

• Healthy Muslims will fast whilst
  – continuing with their day to day routine
  – perform extra prayers
  – do good deeds
  – spend more time with family and friends
Who can not fast

- Children
- The sick
- The elderly
- The mentally handicapped
- People who would be putting their health at serious risk by fasting
  - those with long term conditions
    - such as diabetes, chronic kidney disease and cardiovascular disease.
    - Those who do not fast should give charity to the poor.
- Pregnant and nursing mothers
- Menstruating women
- If you are travelling
  - In these instances the person can make up the fast at a later date, or provide meals to the needy or give charity donations to the poor.
The Quran specifically exempts the sick from the duty of fasting (Al-Bakarah 183-185)

- Patients with diabetes fall under this category
  - because their chronic metabolic disorder may place them at high risk for various complications

- Nevertheless, many patients with diabetes insist on fasting during Ramadan
Prevalence

- Estimated 40-50 million people with DM observe the Ramadan fast

- There were 1.6 million Muslims living in Britain in 2001.
  - comprise 3 per cent of the total population
  - and over half (52 per cent) of the non-Christian religious population

  (Ref: http://www.statistics.gov.uk)

- 20 per cent of the South Asian community has Type 2 DM
  - in contrast to 3% of the general population


- Estimated number of Muslims living in UK with DM is > 325,000 person
Physiological Effects of Fasting

- On Calorie intake
- On fluid/water intake
- Effects on – Digestive System
  - Kidneys
  - Endocrine glands
  - Lipid Metabolism
  - Respiratory system
    - Neurological System
Major risks

- Hypoglycaemia
- Hyperglycaemia
- Diabetic ketoacidosis
- Dehydration and thrombosis
High Risk

- Patient with a history of recurrent hypoglycaemia
- Hypoglycemia unawareness
- Renal complications
- Hyperosmolar / hyperglycemic coma within the previous 3 months
- Living alone that are treated with insulin or sulfonylureas

- Type 1 diabetes
- Ketoacidosis within the last 3 months prior to Ramadan
- Patients who perform intense physical labor
- Old age with ill health
Better candidates

• Moderate risk
  – Well-controlled patients
    • treated with short-acting insulin secretagogues such as repaglinide or nateglinide

• Low risk
  – Well-controlled patients
    • treated with
      – diet alone
      – Metformin
      – thiazolidinedione
Before Ramadan

• Talk with your patients

• Do they want to attempt the fast?

• Share concerns
Education

• The Principles of pre-Ramadan patient review is:
  – assessment of physical well being
  – assessment of metabolic control
  – adjustment of the diet protocol for Ramadan fasting;

• change long-acting hypoglycaemic drugs to short-acting drugs to prevent hypoglycaemia

• encouragement of continued proper physical activity

• recognition of warning symptoms of dehydration, hypoglycaemia and other possible complications.
Teaching topics should include

- Home glucose monitoring.
- Checking urine for ketones.
- Teach how to take pulse, temperature and look for skin infection.
- Symptom awareness - any colicky pain, a sign for renal colic, or hyperventilation, a sign of dehydration and early Ketoacidosis.
- Where and when to seek medical help from if in any trouble.
General dietary guidelines

• Late Sehri and early Iftar

• More starchy foods
  – such as pasta, rice, chapatti, couscous and bread.
  – Include fruits, vegetables, lentils and yoghurt

• Sugar-free drinks or water
  – use sweetener where needed, e.g. Canderel, Sweetex

• Limit fried and sugary foods
Keep in mind

• Quantity of food consumed at the time of Sehr and Iftar

• Duration of the fast
  – Whether Ramadan falls during the summer or winter months
Patients on diet alone treatment

• Diabetes controlled by
  – diet and physical activity alone
  – should be able to fast safely.

• Food and drink carefully thought out
  – using low-calorie drinks
  – limiting sweets and fried foods.
Reverse the Schedule
Patients on Oral (tablets) treatment

- **Metformin**
  - fast safely
    - change the timing of their tablets
    - Full dose should be taken at Iftar and
    - half of normal dose at Sehri.
    - Increase or decrease accordingly

- **Glitazones (Rosiglitazone and Pioglitazone).**
  - no need to change the dose.

- **Repaglinide and Nateglinide**
  - useful for fasting because of its short action
Sulphonylureas
(sulphonylureas + metformin or sulphonylurea + glitazone)

• If on Glibenclamide,
  – think about changing to Gliclazide, Glipizide
  – taken once a day
  – in evening before the break of fast meal.

• If blood sugar is highish
  – full usual dose at Iftar
  – Add half the dose at morning Sehri time

• Glimepiride would be safe
  – some dose reduction to allow for their long-acting nature.
Patients on Insulin

- Type 1 diabetes
  - with poor control
  - hypo unawareness
  - frequent hypo and high blood sugar
  - severe kidney
  - eye complications
  - prone to frequent diabetic ketoacidosis

*advised not to fast*
Type 1 diabetes on insulin treatment

• Regular blood glucose checks
  – pre dawn meals
  – 3 hours after pre dawn meals
  – pre sunset meal
  – 3 hours post sunset meals

• Recommended regimen could be
  – long acting basal insulin like Ultralente, Glargine or Detemir (In place of Isophane) at pre-dawn or sunset meal
  – giving short acting insulin analogue (Lispro or humalog)
    • usual full morning dose at sunset meals, to avoid hypoglycaemia at mid day
    • 20-30% of the usual morning dose at pre-dawn meals

• Ensure fast and easy access to their local specialist diabetic nurse and physicians
Type 2 diabetes on insulin treatment

• Don’t stop taking insulin during Ramadan

• As a general rule consider
  – usual full morning dose at sunset meals
  – lower dose (1/2 to 1/3rd of normal morning dose) at pre-dawn meals

• Consider changing from
  – pre-mix insulin to long-acting insulin (e.g.; Isophane, detemir or glargine)

• Short acting insulin analogues (Lispro and Novo-Rapid)
  – during break of fast meal
  – giving a lower risk of hypoglycaemia during the night

• Where possible, take rest during the day to help avoid lowering of blood glucose levels.

advised not to fast
Other Medications

- Ear, eye drops
- Transdermals, creams, ointments
- Suppositories
- Injections (except IV feeding)
- Oxygen
- Sublingual nitroglycerin
Take Home Message

- Diabetics are exempt from fasting
- Pre-Ramadan Education regarding diet and medication
- Risk assessment
- Reverse the medication schedule
- Checking blood sugar does not break fast
- Speak to your Muslim colleague
References:

- Advice to the Diabetic Patient who wants to FAST during the Holy month of Ramadan:
  - By: Dr M Akber, Consultant Physician in Diabetes & Endocrinology University Hospital of North Staffordshire, Stoke on Trent, UK
  - Contact: mohammed.akber@uhns.nhs.uk