Diabetes Part2

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Outline

- DM Screening.
- DM Diagnosis.

ADA Screening

- Criteria:
  - ✓All patients ≥ age 45 years.
  - ✓Adults of any age who are overweight or obese and who have ≥1 additional risk factors for diabetes.
  - ✓Children and adolescents who are overweight or obese and who have ≥2 additional risk factors for diabetes.

Adult Risk Factors

- ✓ Overweight or obese.
- ✓ Physical inactivity.
- ✓ Age ≥ 45 years
- ✓ First-degree relative with diabetes.
- ✓ Pre-diabetic: A1C ≥ 5.7%, IGT, or IFG on previous testing.
- ✓ Hypertension (≥ 140/90 mmHg or on therapy for hypertension).
- ✓ HDL cholesterol level <35 mg/dL (0.90 mmol/L) and/or a triglyceride level >250 mg/dL (2.82 mmol/L).
- ✓ High-risk race/ethnicity .
- ✓ Women who delivered a baby weighing > 9 lb or were diagnosed with GDM.
- ✓ Women with polycystic ovary syndrome.
- ✓ Clinical conditions associated with insulin resistance.
- ✓ History of CVD.

Children(≤18year) Risk Factor

- Overweight.
- Family history of DM2 in first- or second-degree relative.
- Race/ethnicity.
- Signs of insulin resistance or conditions associated with insulin resistance.
- Maternal history of diabetes or GDM during the child's gestation.

Follow up

- Normal results>> repeat after 3 year
- Pre-diabetic>> repeat after 1 year.

Screening USPSTF

- The USPSTF recommends screening for

✓ Adults aged 40 to 70 years.

✓ Overweight or obese.

Screening NICE

- Recommend risk assessment using a self-assessment questionnaire or risk-assessment tool for diabetes for :

✓ Adults aged 40 and above.

✓ Younger adults in high-risk ethnic groups, those with a body mass index >30, or with comorbidities including hypertension or cardiovascular disease.

Diagnosis

- Diagnostic tests:

1. A1C criteria. **OR**
2. plasma glucose criteria:
   - Fasting plasma glucose (FPG). **OR**
   - Oral glucose tolerance test (OGTT)

A1C

- ***Definition:***

- It reflects the average blood glucose concentration over the course of the RBC lifespan, roughly 120 days (3 months) in normal individuals.

- ***Criteria: NGSP***

- ***Advantage:***

1. Convenience.
2. Stability.
3. Day-to-day effect.

- ***Disadvantage:***

1. Cost.
2. Availability
3. Incomplete correlation between A1C and average glucose in certain individuals.

- **Hemoglobinopathies/ Anemias?**

Diagnosis

- **Criteria for the diagnosis of <u>Pre-diabetes:</u>**

✓ A1C ≥ 5.4 to 6.4%.

OR

✓ FPG ≥ 100 to 125 mg/dL (5.6 to 6.9 mmol/L)

OR

✓ 2-h PG ≥140 to 199 mg/dL (7.8 to 11.0 mmol/L) during an OGTT.

Diagnosis

- **Criteria for the diagnosis of <u>DM</u>:**

✓ A1C ≥ 6.5%.

OR

✓ FPG ≥ 126 mg/dL (7.0 mmol/L).

OR

✓ 2-h PG ≥ 200 mg/dL (11.1 mmol/L) during an OGTT.

OR

✓ Random plasma glucose ≥ 200 mg/dL (11.1 mmol/L), In a patient with classic symptoms of hyperglycemia or hyperglycemic crisis.

Confirmation

- Clinical diagnosis With test result above the diagnostic cut point>> 1 result is enough.
- No clear clinical diagnosis: It is recommended that the same test be repeated immediately using a new blood sample for confirmation.
- 2 results above the cut point. OR
- 2 different tests are both above the diagnostic cut point.
- 2 different tests, one above the diagnostic cut point while the other is normal >> Repeat.

Summary for DM Diagnosis

Glucose Test	Impaired glucose test	DM
Random Plasma	----------	>200mg/dL + symptoms
Fasting	110-126	>126 mg/dL on two occasions
2-hrs postparandial	140-200	>200 mg?dL
HbA1c	5.7-6.4	>6.5

Summary

- ✓ DM should be screened in adults and children with risk factors.
- ✓ DM can be diagnosed by:

1. A1C ?
2. FPG ?
3. 2-h PG during an OGTT ?
4. Random plasma glucose+ SXS ?

References

- ADA Guidelines.
- https://www.youtube.com/watch?t=18&v=WA9VJo5CW40.
- http://www.uptodate.com/contents/clinical-presentation-and-diagnosis-of-diabetes-mellitus-in-adults
- http://emedicine.medscape.com/article/117853-overview
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- http://www.uspreventiveservicestaskforce.org/Page/Document/UpdateSummaryFinal/screening-for-abnormal-blood-glucose-and-type-2-diabetes?ds=1&s=Diabetes%20mellitus.

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