Getting Older with Diabetes

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Outline

• Diagnosing diabetes
• Glucose targets and hypoglycemia
• Cardiovascular risk reduction
• Comorbidities
• Driving motor vehicles
• Costs of diabetes medications

More than 25% of the US population >65 years has diabetes.
Diagnosing Diabetes
- Fasting Glucose > 125 mg/dl
- Two Hour Post-Meal Glucose ≥ 200 mg/dl
- A1C ≥ 6.5%

Diagnosing Prediabetes
- Fasting Glucose 100-125 mg/dl
- Two Hour Post-Meal Glucose 140-200 mg/dl
- A1C 5.7% - 6.4%

Glucose Targets

<table>
<thead>
<tr>
<th>Groups</th>
<th>A1c target</th>
<th>Fasting blood sugars</th>
</tr>
</thead>
<tbody>
<tr>
<td>Healthy adults, long life expectancy</td>
<td>&lt;7.5%</td>
<td>90-130</td>
</tr>
<tr>
<td>Moderate comorbidities and/or life expectancy &lt; 10 years</td>
<td>&lt; 8%</td>
<td>90-150</td>
</tr>
<tr>
<td>Multiple morbidities, life expectancy &lt; 5 years</td>
<td>&lt;8.5%</td>
<td>100-180</td>
</tr>
</tbody>
</table>

A1c may not be accurate in conditions that are frequently seen in older adults:
- Anemia
- Acute illness
- Chronic kidney disease
- Hospitalizations
- Recent transfusions
- Chronic liver disease

Kirkman. Diabetes Care 2012.
Hypoglycemia

- Hypoglycemia rates are higher in older individuals.

Emergency Department Visits for Hypoglycemia

- Older adults are more vulnerable to the effects of hypoglycemia.
- There may be delayed recognition of hypoglycemia.
- Hypoglycemic episodes may increase the risk of cardiovascular events and cardiac autonomic dysfunction, dementia, and falls.

Hypoglycemia Risk Factors

<table>
<thead>
<tr>
<th>Factor</th>
<th>Risk Factor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medication</td>
<td>Missed meals</td>
</tr>
<tr>
<td>Hypoglycemia unawareness</td>
<td>Acute illness</td>
</tr>
<tr>
<td>Food insecurity</td>
<td>Prior hypoglycemia</td>
</tr>
<tr>
<td>A1c</td>
<td>Kidney disease</td>
</tr>
</tbody>
</table>

Cardiovascular Risk Reduction

- Risk of cardiovascular disease increases with age.
- Smoking cessation
- Treatment of hypertension
- Some dispute about specific goals. Generally <140/90 for younger, healthy adults and <150/90 for older, frail adults.
- Treatment of dyslipidemia
- Statins are recommended for secondary prevention, and for primary prevention in individuals with diabetes who are 40-75 years old.
Cardiovascular Risk Reduction

- Aspirin
  - For secondary prevention, and consider for primary prevention for those with 10-year CV risk > 10% (most people with diabetes > 50 years old with at least one additional major risk factor).

- Exercise
  - Exercise helps maintain physical function, reduce cardiac risk, and improve insulin sensitivity. It also improves body composition, reduces falls and depression, increases strength and balance, enhances quality of life, and decreasing mortality.

Comorbidities

- Older adults with diabetes are at higher risk for polypharmacy, functional disabilities, and common geriatric syndromes such as:
  - Cognitive impairment
  - Depression
  - Falls
  - Urinary incontinence

Driving Motor Vehicles

- People with diabetes should check their blood glucose level before they start their car to drive and should treat their blood glucose level if it is low or very high before they drive.

- People with diabetes who drive commercial vehicles must have written approval from their doctor sent to the DOT every 3-6 months.

- People with diabetes who have a severe hypoglycemic episode that results in a seizure cannot drive any vehicle until they have at least 6 months without a repeat episode.
Cost of Diabetes Medications

- Diabetes Medications are Expensive
  - Oldest Medications Average: $4 - $100 per month
  - Newer Medications Average: $350 - $1,000 per month
- Weight Loss of 10-15 lb can often result in being able to stop at least one diabetes medication.