Hypoglycaemia Assessment in the Older Person

Key Considerations in Practice
how old is old?
Diabetes and Ageing
pain, falls, incontinence, weight loss, low BMI, dizziness, sensory impairment, and malnutrition
Hypoglycaemia

Imbalance of...
- Glucose supply
- Glucose utilisation
- Insulin levels
4’s the floor!
Signs and symptoms will vary and the level at which people experience symptoms will vary.
Early symptoms: feeling hungry, sweating, tingling lips, shaking, trembling, dizziness, tiredness, palpitations.
May become: Pale, irritated, tearful, stroppy, moody.
Later Symptoms: Weakness, blurred vision, difficulty concentrating, confusion, unusual behaviour, slurred speech, clumsiness, feeling sleepy, seizures, collapse.
Blunted physiological counter-regulation with ageing causes:

- weakness
- faintness
- sleepiness

rather than typical autonomic symptoms, delaying recognition of hypoglycaemia

What’s different in older people?
sometimes no symptoms!
sometimes symptoms masked by other things eg. UTI, dementia and confusion.
Always investigate unusual behaviour!
Hypoglycaemia must be excluded in any person with diabetes who is acutely unwell, drowsy, unconscious, unable to co-operate, presenting with aggressive behaviour or seizures.
If conscious 15-20g quick acting CHO. Check BG 10-15 minutes. Repeat if necessary. Up to 3 times. Long acting CHO. If unconscious/unable to swallow Glucagon 1mg SC/IM
older people at risk

- Multiple co-existing chronic illnesses
- Requirement for SU or insulin
- Impairment of ADL
- Functional dependency
- Cognitive impairment
- Vascular disease
- CKD
- High treatment burden
- Frail
medication
lower risk insulins

long-acting basal insulin analogues
lipohypertrophy
hypo risk with SU’s

- Don’t underestimate risk!
- Prolonged recovery
- Hospitalisation common
- Glibenclamide not recommended
- Reduce/avoid in CKD
- Risk v Benefit
- Can you reduce or withdraw?
more medications = more risks

- drug interactions
- adverse events
- frailty
- falls
- functional disability
- cognitive decline
always review meds following hypo

- Assess whether insulin needs reducing
  (10-20% reduction as guide)
- If SU induced, consider reducing or discontinuing SU
- If SU induced, admit for assessment and further treatment
kidney disease
frailty
cognitive decline
consequences of hypos
UK audit 2015
Out of 1182 paramedic call outs for people with T2 hypoglycaemia, there was a 22% mortality rate within one year.
Hypoglycaemia is associated with an increased risk of cardiovascular events and death, particularly in those with pre-existing CVD.
severe hypoglycaemia risks injury, harm and serious adverse outcomes:

- Cardiovascular events
- Disease progression: retinopathy, neuropathy and CKD
- Falls and fractures
- Cognitive decline and dementia
- Increased mortality
how do we avoid it?
individualise targets

QOF HbA1c < 75 (9%)
Fasting or pre-meal BG - 5.2- 8.3mmol/l
Bedtime – 6.0-10.0 mmol/l
Cynthia Aged 60

- HbA1c 57 mmol/mol (7.4%)
- BMI 32
- eGFR >90 mil/min
- eFl ...
- Medications:
  - Metformin 1g BD
  - Gliclazide 80mg BD
  - Insuman Basal 32 & 26 units
Cynthia Aged 70

- HbA1c 64 mmol/mol (8%)
- BMI 35
- eGFR 72 mil/min
- eFl Mild
- Medications:
  - Metformin 1g BD
  - Gliclazide 160mg BD
  - Insulan Basal 50 & 48 units
Cynthia Aged 80

- **HbA1c**: 49 mmol/mol (6.6%)
- **BMI**: 26
- **eGFR**: 48 mil/min
- **eFI**: severe
- **Medications:**
  - Metformin 1g BD
  - Gliclazide 160mg BD
  - Insuman Basal 26 & 26 units
What happened to Cynthia?

- Cynthia was seen by her practice nurse for annual review.
- They talked about Strictly for 35 seconds!
- Cynthia was asked how she felt and was she happy with the way she felt.
- They discussed goals, Cynthia said she’d like to feel well enough to go to church and coffee mornings.
- They discussed what target HbA1c Cynthia would be happy with, she said she just wants to feel better.
Cynthia’s medication

• Cynthia was asked how she took her medication.

• She said she often forgets the evening ones but always gives her insulin, not always half an hour before eating though.

• They made a plan together to gradually reduce and stop the Glicalzide.

• Then eventually to switch the Insuman to once a day Semglee.

• Her daughter offered to check her BG levels for her before bed.
conclusion (top tips!)

• Always investigate unusual behaviour and drowsiness
• Caution with declining eGFR
• Caution with frailty and dementia
• Always review meds:
  are they necessary?
  might they cause harm?
  can you reduce/simplify?
• Review and relax targets when appropriate
thank you!
any questions?

EDEN@uhl-tr.nhs.uk 0116 2584674
References


2. Handbook of insulin therapies. Davies, Castro, Jarvis

3. When hypoglycaemia is not obvious: Diagnosing and treating under-recognized and undisclosed hypoglycemia Colin Kenny
   https://www.nhs.uk/conditions/low-blood-sugar-hypoglycaemia/


5. The Hospital Management of Hypoglycaemia in Adults with Diabetes Mellitus 3rd edition Revised February 2018 JBDS-IP(Joint British Diabetes society for Inpatient Care)

6. Factors influencing safe glucose-lowering in older adults with type 2 diabetes: A PeRsOn-centred ApproaCh To IndiVidualisEd (PROACTIVE) Glycemic Goals for older people A position statement of Primary Care Diabetes Europe C.E. Hambling a,b,*, K. Khuntib, X. Cosc, J. Wensd, L. Martineze, P. Topseverf, S. Del Pratog, A. Sinclair h, G. Schernthaneri, G. Ruttenj, S. Seidu

7. JBDS-IP Hospital Management of Hypoglycaemia in Adults with Diabetes 3rd edition Feb 2018


9. Polypharmacy among patients with diabetes: a cross-sectional retrospective study in a tertiary hospital in Saudi Arabia Monira A Alwhaibi1,2, Bander Balkhi1,2, Tariq M Alhawass1,2,3, Hadeel Alkofide1, Nof Alduhaim1, Rawan Alabdulali1, Hadeel Drweesh1, Usha Sambamoorthi4 https://bmjopen.bmj.com/content/8/5/e020852


References


15. Frequency of Hypoglycemia and Its Significance in Chronic Kidney Disease Maureen F. Moen,*† Min Zhan,† Van Doren Hsu,‡ Lori D. Walker,† Lisa M. Einhorn,*† Stephen L. Seliger,*† and Jeffrey C. Fink*†


19. K. Mattishent, Y.K. Loke, Bi-directional interaction between hypoglycaemia and cognitive impairment in elderly patients treated with glucose lowering agents: systematic review and meta-analysis, Diabetes Obes. Metab. 33 (2015


References


25. K. Mattishent, Y.K. Loke, Bi-directional interaction between hypoglycaemia and cognitive impairment in elderly patients treated with glucose lowering agents: systematic review and meta-analysis, Diabetes Obes. Metab. 33 (2015)


27. https://www.nice.org.uk/guidance/ng28/chapter/1-Recommendations#hba1c-measurement-and-targets


31. Hypoglycaemia in adults in the community: recognition, management and prevention TRENDS UK