Hypoglycaemia.

Definition

- Hypoglycaemia, also called low blood glucose or low blood sugar, occurs when blood glucose drops below normal levels - it is defined as any blood glucose level less than 3.9 mmol/L.
Physiology

• The brain is dependent on a continuous supply of glucose, and its interruption for more than a few minutes leads to central nervous system dysfunction, impaired cognition and eventually coma.

Classification of hypoglycaemia:

• Mild – Hypoglycaemia is successfully treated by the patient.

• Moderate – Assistance is required from another person, the patient is usually alert or rousable.

• Severe – The person becomes unconscious, which may lead to coma or convulsions. If left untreated the person may die.
Causes of hypoglycaemia

- Drugs: Insulin or insulin secretagogue's, alcohol, illicit drugs.
- Exercise / physical activity.
- Hospitalisation
- Delayed meal / fasting.
- Physical activity: house work, gardening, exercise, sexual activity.
- Illness: Hepatic, renal or cardiac failure. Sepsis.
- Hormonal Deficiency: Cortisol, Glucagon, Epinephrine, Growth hormone or adrenal.

Sign and Symptoms

- HEADACHE
- RINGING IN THE EARS
- TREMBLING
- IRRITABILITY
- SWEATINESS
- BLURY VISION
- INCREASE HEART RATE
- HUNGER
- FEELING ANXIOUS
- WEAKNESS OR TIRENESS
Management and treatment of hypoglycaemia

- TATR
- Test patient’s BGL – if < 3.9 mmols
- Administer 15g rapid acting carbohydrate
- Time – Wait 10 minutes, ensuring patient is in a safe environment.
- Re-test BGL. If BGL remains < 3.9 mmols administer a further 15 grams of rapid acting carbohydrate & re-test BGL after 10 minutes.
- When BGL is above 3.9 mmols give a small long acting CHO snack (2 biscuits / glass of milk / yogurt / piece of fruit)
- Continue to monitor BGL’s regularly due to increased risk for further hypo episodes.

Case Studies

- Sean – 76 year old gentleman admitted with chest pain.
- Medical history: Occasional migraines, hypertension, Chronic Kidney Disease Stage 4, Hypercholesteraemia, Type 2 diabetes and Obesity.
- Sean has experienced 2 hypo episodes 3.5mmols pre breakfast and 3.2 mmols pre lunch
- What are the issues???
Case Study 2

- Anne, 59 year old lady admitted overnight post concussion secondary to fall. Same cause by C2H5OH intake approx. 1 bottle (700mls of vodka).
- Past medical / surgical history: Anorexia Nervosa, Type 1 diabetes aged 16 years, appendectomy as a child.
- Medications: Novorapid 5-8 units with meals, Toujeo 22 units nocte.
- Recent weight loss of 6 kgs. BMI: 16.8kg/m2.
- What are the issues??

The impact of an educational intervention on nurses’ knowledge towards the management of in-patient hypoglycaemia: A pilot study.

References