23.8.3 HYPOGLYCAEMIA

E10.0/E10.6/E11.0/E11.6/E12.0/E12.0/E12.6/E13.0/E13.6/E14.0/E14.6/E16.0/E16.1/E16.2

DESCRIPTION

Hypoglycaemia, defined as a glucose concentration <4 mmol/L, is common in critically ill patients, and is associated with increased mortality. Risk factors associated with hypoglycaemia in critically ill patients include severity of illness, intensive/strict glucose control, continuous veno-venous haemodialysis, decreased nutritional feeds without adjustment of insulin infusions, prior diagnosis of diabetes mellitus, sepsis, and the need for inotropic support. See section 8.6.1: Hypoglycaemia for further details.

GENERAL MEASURES

» Assess and treat precipitating factors.
» Maintain a target glucose concentration of 6-10 mmol/L.
» Monitor glucose every 15 minutes.
» Provide organ support (respiratory, cardiovascular, neurological).

LoE:IVb[ii]

MEDICINE TREATMENT

<u>If awake and alert:</u>

- Glucose, oral, 20 g, immediately.
  - Alternatively, a carbohydrate-rich supplement may be given if tolerated.

<u>If obtunded, or glucose level <2.5 mmol/L:</u>

- Dextrose 50%, IV, 20 ml immediately.

<u>If hypoglycaemia recurs or dextrose 50% IV solution is not available:</u>

- Glucagon, SC, 1 mg immediately.

LoE:IVb[ii]

23.8.4 HYPERGLYCAEMIA

E10.0-1/E11.0-1/E12.0-1/E13.0-1/E14.0-1/R73.9

DESCRIPTION

Hyperglycaemia (blood glucose concentration >11 mmol/L) occurs in up to 50% of critically ill patients (also called stress hyperglycaemia or critical illness hyperglycaemia). An elevated blood glucose in patients with previously undiagnosed diabetes and without significantly elevated glycated haemoglobin (Hb_{A1c}) levels (>6.5%) is suggestive of stress hyperglycaemia.

LoE:IVb[iii]

Hyperglycaemia is associated with increased mortality, length of hospitalisation, and potentially an increased risk of hospital acquired infections.

See section 8.6.2: Diabetic Ketoacidosis (DKA) And Hyperosmolar Hyperglycaemic State (HHS) for further details.

GENERAL MEASURES

» Maintain a glucose target in ICU: 6-10 mmol/L.
» Balanced salt solutions are preferred to normal saline for fluid resuscitation.
» Continuous insulin infusion therapy should be considered to achieve glycaemic targets.
» Risk of hypoglycaemia should be considered when choosing the method of insulin administration.