23.5.2 ANAEMIA IN CRITICAL CARE

D64.9

DESCRIPTION

» Anaemia is common in critical illness.
» Anaemia results in reduced tissue oxygen delivery which may cause or worsen organ dysfunction. The underlying cause should be investigated and treated.
» Avoid unnecessary phlebotomy to reduce the risk of iatrogenic anaemia.
» The benefits of treating anaemia must always be weighed against the risks of blood transfusion.

GENERAL MEASURES

Transfusion triggers:

» The transfusion trigger is the haemoglobin (Hb) level at which one should consider a blood transfusion.
» The final decision to transfuse red blood cells should also consider the patient's clinical condition.
» Transfuse the patient to obtain an Hb above the transfusion trigger depending on the type of bleeding.

Non-bleeding patient:

In the non-bleeding patient, an Hb <7 g/dl is an appropriate transfusion trigger.

This includes patients with:
» Septic shock
» Trauma without bleeding
» Upper gastrointestinal bleeding

Note:
» Elderly patients, and those with stable coronary artery disease do not appear to require a higher transfusion threshold.
» Uncertainty is noted for the following clinical scenarios:
» critically ill patients with an acute coronary syndrome
» traumatic brain injury
» cerebrovascular accidents
» critically ill oncology patients
» Transfusion may be appropriate in these scenarios in a patient with a Hb of 7-9 g/dl after considering the patient's clinical condition.

Bleeding patient:
The decision to transfuse the bleeding patient should not be based on a single Hb level, but should be determined by the:
» Amount and rapidity of blood loss.
» Likelihood of bleeding control.
» Physiological state of the patient.

Non-transfusion alternatives:
» Cell-salvage(blood salvage) may reduce the need for red blood cell transfusions, if available.

MEDICINE TREATMENT

- Red blood cells, IV, one unit immediately.
  - Only one unit of red blood cells should be ordered and transfused at a time. After each unit, the need for another unit should be reviewed prior to ordering the next unit.
  - Exceptions to this include large volume blood loss where a massive transfusion protocol may be more appropriate (See section 23.5.7: Massive transfusion protocol).

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CAUTION
» Intravenous iron should not be used as it does not appear to reduce transfusion requirements or improve outcomes in the critically ill patient
» Erythropoietin should not be used in the critically ill patient unless indicated, as it has minimal effect on transfusion requirements, does not improve patient outcomes, and may be associated with adverse effects including thrombosis.