

3. IDENTIFY, EVALUATE AND

MANAGE ANAEMIA

Identifying, evaluating and managing anaemia is a key strategy for optimising red blood cell (RBC)

mass in all patient groups (PBM Pillar 1).

Key messages

- Anaemia is an independent risk factor for morbidity and mortality in both medical and surgical patients.1,2

- RBC transfusion in medical patients has been associated with mortality and morbidity in some patient groups.2

- Preoperative anaemia is predictive for RBC transfusion which is associated with increased morbidity, mortality, ICU length of stay and hospital length of stay.1

Clinical implications

- Preoperative anaemia requires identification, assessment and management in order to optimise haemoglobin and iron stores before elective surgery is scheduled.1

- Treatment of the underlying condition and pharmacological treatment of anaemia is preferable to transfusion.

- Use the preoperative haemoglobin assessment and optimisation template to guide practice for patients undergoing procedures in which substantial blood loss is anticipated. The template can be adapted for local use.1

- Iron therapy, erythropoiesis stimulating agents ESAs and RBC transfusion are possible treatments for anaemia.

- In patients with iron deficiency anaemia, iron therapy is required to replenish iron stores regardless of whether a transfusion is indicated.2

Background

Anaemia is defined by the World Health Organization (WHO) as a haemoglobin level of <130 g/L in males and <120 g/L in females.3 Anaemia occurs when there is insufficient production of red blood cells, or excessive loss or destruction of red blood cells. Common causes include iron or vitamin deficiencies, anaemia of chronic disease and bone marrow disorders.

Anaemia is common in the community and incidence increases with age. Prevalence rates from a large population based study in the US found rates of approximately 10% in adults over age 65; more than doubling to 23% at age ≥85 years.4

Anaemia is independently associated with an increased risk of morbidity and mortality and with an increased likelihood of RBC transfusion.1,5

Anaemia is an independent risk factor for mortality and adverse cardiovascular outcomes in medical patients.2 In medical patients including those with cancer, the aetiology of anaemia

is often multifactorial; where appropriate, reversible causes should be identified and treated.2

(MED-PP8)

Preoperative anaemia is common in elective surgical patients. The prevalence ranges widely from

5% to 76%6 depending on age, co-morbidities and the nature of the underlying condition requiring

surgery. Examples of reported prevalence rates include:

- 24 ± 9% in hip or knee arthroplasty7

- 44 ± 9% in hip fracture repair7

- 26% ± 4% in cardiac surgery8

- 31 to 75% in colorectal surgery9

Preoperative anaemia is associated with an increased risk of adverse outcomes including increased morbidity, such as cardiac events, pneumonia and postoperative delirium; and up to an almost 5-fold increase in mortality.1-2,10-16

Preoperative anaemia has also been shown to be predictive for perioperative transfusion of allogeneic blood products such as red blood cells, which itself carries a significant risk of morbidity, mortality, ICU length of stay and hospital length of stay (PO-R2,R3).4,14-16

Preoperative anaemia requires identification, assessment and management in order to optimise haemoglobin and iron stores prior to elective surgery (PO-R1, PP1, PP4, PP5).1 The PBM guidelines: Module 2 - Perioperative contain a preoperative haemoglobin assessment and optimisation template to guide practice for patients undergoing procedures in which substantial blood loss

is anticipated, such as cardiac surgery, major orthopaedic, vascular and general surgery. Specific details, including reference ranges and therapies, may need adaptation for local needs, expertise or patient groups.1

A case study has been developed to guide clinicians to implement preoperative anaemia assessment within their health care organisations. <http://www.blood.gov.au/preoperative-anaemia->identification-assessment-and-management-case-study

References

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Additional resources

y Preoperative anaemia identification, assessment and management case study available, <http://www.blood.gov.au/>

preoperative-anaemia-identification-assessment-and-management-case-study

