CHRONIC KIDNEY DISEASE ANAEMIA 2: OVERVIEW OF GUIDANCE

AUTHORS
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ABSTRACT

This is part 2 of a two-part unit on managing anaemia of chronic kidney disease (CKD). Part 1 outlined its prevalence, causes, signs and symptoms, and screening for it. Part 2 presents key points from published guidance and a summary of treatment options, and discusses nurses’ role in managing people who have anaemia in CKD.

GUIDANCE FOR MANAGING ANAEMIA
There are several published guidelines that have various definitions and suggested treatment options for anaemia in chronic kidney disease (CKD). The Kidney Disease Outcomes Quality Initiative guidance from the National Kidney Foundation (NKF-KDOQI, 2006) defined anaemia in CKD as a haemoglobin concentration of <11g/dl in pre-menopausal females and pre-pubertal patients, and <12g/dl in men and post-menopausal women. The revised European best-practice guidelines (Locatelli et al, 2004) defined anaemia as a haemoglobin level of:
- <11.5 g/dl in adult female patients;
- <13.5 g/dl in adult male patients;
- <12.0 g/dl in men aged over 70 years.

In 2006 NICE published guidance suggesting treatment be started when haemoglobin is <11g/dl. As this is the most up-to-date, evidence-based guidance, it is currently being implemented in renal units and primary care settings across the UK.

LEARNING OBJECTIVES

2. Understand treatment options and nurses’ role in management.

NICE (2006) gave a clear definition of anaemia in CKD by using the level of kidney function as a trigger for investigation. NICE stated that an estimated glomerular filtration rate (eGFR) of <60ml/min/1.73m² (equating to roughly 60% kidney function) should trigger investigation into whether anaemia is due to CKD. When the eGFR is >60ml/min/1.73m² the anaemia is more likely to be related to other causes.

Key recommendations from NICE’s (2006) guidance include:
- Management of anaemia should be considered in people with anaemia of CKD when their haemoglobin level is <11g/dl (or 10g/dl if under two years of age);
- Treatment with erythropoiesis-stimulating agents (ESAs) should be offered to those with anaemia in CKD likely to benefit in terms of quality of life and physical function;
- Age alone should not be a determinant for treatment of anaemia in CKD;
- People receiving ESA maintenance therapy should be given iron supplements when clinically indicated;
- Patient education;
- Access to a designated contact person.

Guidelines and haemoglobin ranges can be confusing so it is important to have an agreed set of evidence-based guidelines locally when managing anaemia in CKD and to ensure there is adequate funding and resources to implement them.

TREATMENT OPTIONS
Iron supplementation
Lack of iron is the main haematocrit deficiency contributing to anaemia in CKD. Patients with anaemia in CKD may develop either absolute deficiency or functional iron deficiency. Absolute iron deficiency is defined by low body iron stores, while functional iron deficiency occurs when there are sufficient iron stores but iron is not released rapidly enough to satisfy the demands of red-cell production.

Iron stores are most commonly assessed by measuring serum ferritin levels, often in conjunction with percentage of transferrin saturation rates (%TSAT). A serum ferritin <100mcg/l and a TSAT <20% indicate absolute iron deficiency (Eshbach, 1999). Serum ferritin levels, however, can be raised when inflammation or infection is present, so it is important to be aware of this when looking at blood results. Even if the serum ferritin level is normal or raised, patients can still have iron deficiency, especially if the transferrin saturation level is below 20%.

Patients requiring ESA therapy are likely to need iron supplementation to maintain their serum ferritin level between 200 and 500mcg/l (NICE, 2006). People with stage 4–5 CKD are likely to require intravenous iron to maintain their serum ferritin level but the use of oral iron should not be dismissed.

Erythropoiesis stimulating agents
ESAs play an important role in the management of anaemia in CKD by stimulating the production of red blood cells by the bone marrow. Treatment of anaemia in CKD using ESAs is now well established with several studies demonstrating that it corrects anaemia in CKD, optimises outcomes and reduces the need for blood transfusions (Cody et al, 2005).

The choice of ESA should be discussed with patients when initiating treatment. A treatment plan should be devised that is clinically effective, consistent and safe. It should include:
- A designated point of contact should patients have follow-up questions about their condition or treatment;
- Continuity of drug supply;
- Flexibility about where the drug is delivered and administered;
Patients’ lifestyle and preferences;
Cost of drug supply;
Desire for self-care where appropriate;
Regular review in light of changing needs.

Monitoring response to treatment
Some 90–95% of patients can be expected to show a response to treatment of anaemia in CKD. However, in some cases there is a period of poor response – the most common causes include:
- Iron deficiency;
- Blood loss;
- Infection/inflammation;
- Underdialysis (if patients are on dialysis);
- Concordance issues – there may have been miscommunication/misunderstanding about the drug, administration regimen or source of supply, which needs resolution.
If these causes have been excluded without resolution of the poor response, further guidance should be sought from a specialist renal unit on further investigations.
An acceptable treatment response would be a 1g/dl rise in haemoglobin per month – treatment should be adjusted accordingly to achieve this.

NURSES’ ROLE IN MANAGING ANAEMIA
NICE (2006) guidance on managing anaemia in CKD advocated that patients should have access to designated contacts who have principal responsibility for their anaemia management and who have skills in:
- Monitoring and managing a caseload of patients in line with locally agreed protocols;
- Providing information, education and support;
- Coordinating an anaemia service for people with CKD, working between acute and primary care and providing a single point of contact;
- Prescribing and monitoring the effectiveness of medicines related to anaemia management.
Patients who receive treatment for anaemia in CKD may also be admitted to general wards for other reasons due to the complexity of their multiple co-morbid problems. If this is the case it is sensible to establish when their treatment was last reviewed and consider the appropriateness of taking bloods to determine the urgency for specialist review. Establishing when their next clinic appointment is due will also facilitate continuity of care.

Patient education and support
Patient education is likely to be ongoing due to the long-term nature of this condition and should be tailored to individual needs (NICE, 2006). Culturally and age-appropriate education programmes should be offered to all patients, their families and carers and repeated as requested, with adjustments according to any changes in circumstances.
These programmes should include:
- Practical information about how anaemia in CKD is managed;
- Information on, for example, symptoms, iron management, causes of anaemia, associated medications, treatment phases;
- Professional support (contact information, community services, continuity of care, monitoring, feedback on progress of results);
- Lifestyle (diet, exercise, maintaining normality, meeting other patients);
- Adaptation to long-term condition (previous information and expectations, resolution of symptoms).

Further advice and support
It is essential to develop effective communication links between health services in primary and acute care to optimise patient management. In light of this the Anaemia Nurse Specialist Association (ANSA), an international forum, provides support and ongoing professional development for health professionals with an interest or responsibility in this field. In conjunction with uknursing.net, ANSA has developed an accredited e-learning package so health professionals can develop their understanding and skills in anaemia in CKD. This is accessed via www.anaemianurse.org.

CONCLUSION
Anaemia is a common co-morbid factor of CKD with an estimated prevalence of 12% in stages 3–5 (De Lusignan et al, 2005). NICE guidance provides clear treatment recommendations.
Anaemia treatment programmes tend to be nurse-led and appropriate education programmes need to be established to optimise patient knowledge, thus maximising their response to treatment. A suboptimal response should trigger a programme of systematic investigation and resolution of cause where possible.

KEY REFERENCES


The full reference list for this unit is available in Portfolio Pages at nursingtimes.net.