

ANAEMIA MANAGEMENT IN CHRONIC KIDNEY DISEASE (CKD)
PATIENTS NOT RECEIVING DIALYSIS.

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PROBLEM: Our local anaemia management protocol was developed in accordance with European Best Practice Guidelines (EBPG) and aims for haemoglobin (Hb) levels >11g/dl, Ferritin >150 µg/l and %transferrin saturation (TSAT) >20% in both pre-dialysis and dialysis patients. However, EBPG for pre-dialysis anaemia management are largely derived from data on dialysis dependent patients. There is a lack of published data in pre-dialysis patients.

PURPOSE: To describe the distribution of Hb levels, iron status, and GFR in the pre-dialysis population at time of referral, and the subsequent management required to achieve a protocol target Hb level <11g/dl.

DESIGN: Retrospective observational study of 499 patients treated for anaemia in a single centre between 2001-2003. Patients were stratified by K/DOQI stages of CKD from serum creatinine level at referral using the modified MDRD equation. Baseline Hb level, serum Ferritin, TSAT and GFR were extracted from the anaemia database together with treatment details and subsequent progress. Patients with Hb<11g/dl and serum Ferritin 150µg/l and/or TSAT <20% were given IV iron 200mg weekly for 3 weeks and then treated with erythropoiesis stimulating agents (ESAs) if Hb remained <11g/dl. Those with serum Ferritin >150µg/l, TSAT >20% and Hb <11g/dl were treated with ESAs and received oral iron supplementation. If intolerant of oral iron these patients were given maintenance IV iron 200mg every 8 weeks.

FINDINGS: 195/499 patients with stage 5 CKD had mean GFR 10.0 ± 2.6 mls/min/1.73m², mean Hb 9.5 ± 1.1 g/dl, median Ferritin of 134 µg/l, median TSAT 14%. In 232/499 patients with stage 4 CKD mean GFR was 21.1 ± 4.3 mls/min/1.73m², mean Hb 9.8 ± 1.0 g/dl, median Ferritin 119.4 µg/l and median TSAT 17%. Of the remaining patients 65 were stage 3, 6 stage 2 and 1 stage 1. For stages 1-3 CKD mean GFR was 42.1 ± 18.8 mls/min/1.73m², mean Hb 10.1 ± 1.1 g/dl, median Ferritin 67µg/l and median TSAT 15.5%. 260/499 patients were receiving oral iron at referral, 59% of these required IV iron to achieve optimal iron status. The target Hb was achieved in 30.7% of the patients with CKD stage 4 & 5 without use of ESAs. CKD stage 1-3 patients achieved target Hb without ESAs in 50% of cases.

CONCLUSION: Iron status at referral suggests that iron deficiency is under recognised in CKD patients not receiving dialysis, especially in those with less advanced renal impairment. Oral iron alone is not sufficient to achieve iron targets. With IV iron between 30-50% of all patients achieved target Hb >11g/dl without use of ESAs.

RELEVANCE: IV iron supplementation is an essential part of anaemia management for patients with CKD who are not receiving dialysis.