

SHOULD PRE-DIALYSIS TREATMENT OF ANAEMIA BE THE SAME FOR PATIENTS WITH DIABETES AS FOR THOSE WITHOUT?

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PROBLEM: Anaemia management in pre-dialysis CKD patients both with and without diabetes mellitus (DM) is largely dictated by guidelines derived from dialysis dependent patients, irrespective of underlying diagnosis. Good data concerning iron status is lacking in pre-dialysis patients, and virtually non-existent in specific patient groups such as diabetes.

PURPOSE: To describe the distribution of haemoglobin (Hb) levels, iron status, and GFR in pre-dialysis patients with diabetes at time of referral for anaemia management, and the subsequent treatment with iron and erythropoiesis stimulating agents (ESAs) required to achieve a protocol target Hb level of >11g/dL.

DESIGN: Retrospective observational study of 484 patients with CKD referred for anaemia management in a single centre between 2001-2003. There were 187 patients with DM and 297 without. Patients were stratified by KDOQI stage of CKD from SCr level at referral using the modified MDRD formula and grouped according to whether they had DM or not. Baseline Hb level, serum Ferritin, % transferrin saturation (TSAT) and GFR were extracted from the anaemia database together with treatment details and subsequent progress. Patients were treated according to the unit protocol. Patients with Hb<11g/dl and serum Ferritin <150µg/l and/or TSAT <20% were given IV iron 200mg weekly for 3weeks and then treated with ESAs if Hb remained <11 g/dl. Those with serum Ferritin >150µg/l, TSAT ≥20% and Hb <11g/dl were treated with ESAs. All patients then received oral iron supplementation unless intolerant of oral iron.

FINDINGS: Chi-squared analysis was applied to each stage of CKD for DM versus non-DM patients for the different therapies and combinations of therapies used to achieve a target Hb of >11g/dl and no significant differences in anaemia management found. 98/187 DM patients were receiving oral iron at referral, 58.2% of these also required IV iron to achieve iron targets. 150/297 non-DM patients were receiving oral iron at referral and 58% of these also required IV iron to achieve iron targets. Treatment with IV iron in CKD stages 4 &5 was required in 96/153 (62.7%) patients with DM and of these 44.8% did not require ESAs. For non-DM patients CKD 4 & 5 treatment with IV iron was required in 162/259 (62.5%) and of these patients only 40.1% required ESAs. Treatment with IV iron in CKD stages 1-3 was required in 28/35 (80%) DM patients and 30/37 (81.1%) non-DM patients. 12/28 (42.7 %) of the DM patients and 20/30 (66.6%) non-DM patients achieved a target Hb >11 g/dl without use of ESA.

CONCLUSION: In this observational study the treatment of anaemia in pre-dialysis patients did not vary for patients with DM from those without. Patients with CKD who do not meet iron targets do not achieve target Hb levels with oral iron supplementation, but do respond to IV iron treatment.

RELEVANCE: Inadequate iron stores may be overlooked as a contributory factor to anaemia in patients with CKD. Patients with DM and those without DM need to be treated with IV iron.