

Change in haemodialysis intravenous iron preparation increases care quality

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Introduction

Iron deficiency is common in the dialysis population and IV iron administration has become standard care in managing renal anaemia. NICE guideline NG8 (2015) 'Chronic Kidney Disease: managing anaemia' recommends testing CKD patients to diagnose iron deficiency and determine potential responsiveness to iron therapy and long-term iron requirements every 3 months (every 1-3 months for patients receiving haemodialysis). Locally-developed guidelines recommend the dose and frequency of iron to be given to patients based on haemoglobin (Hb) and percentage (%) of hypochromic red blood cells. Our service changed IV iron preparation (from iron sucrose "Venofer" (IS) to iron isomaltoside 1000 5% "Diafer" (ISM) in 2018. We therefore retrospectively audited practice to: 1) determine how treatment with ISM maintains patients within the Hb target range (100-120 g/L), 2) examine whether or not the doses of erythropoietin stimulating agents (ESAs) changed over time following a switch from IS to ISM, 3) assess whether ISM was cheaper than IS and 4) understand both patient and staff experience with ISM compared to IS.

Methods

We reviewed data from 2 satellite units, by extracting data from our local Renal IT system: age, gender, weight, Hb, ferritin, transferrin saturation (TSATs), mean corpuscular volume (MCV), mean corpuscular haemoglobin concentration (MCHC), % hypochromic red blood cells (RBCs), IV iron and ESA use for all patients (n=124) in the 5 months before and 5 months after change-over in IV iron formulation.

Results

Average age was 66+/-13 years, 55% male. There was no change in Hb control (% with Hb 100-120g/L, 74% to 81%, p=0.291). This was not related to any increase in ESA use, as the average dose of ESAs was not statistically different between the two iron formulations (p=0.116). There was a higher median dose of ISM prescribed compared to IS (median 80mg vs. 40mg per patient, p=0.012) Markers of iron status were similar with both treatments. Over the 5-month course of the audit, ISM costs were higher by £729.80 but when nursing time reduction was included this reduced to £120.41, equating to an extra £24.08/month (<1% increase). Finally, patients and staff reported a more positive experience when using ISM compared to IS. Whilst no adverse events were reported with either IV iron formulation, 9 minutes of nursing time was saved per session and there were no reports of altered taste (metallic) in patients administered ISM.

Discussion

ISM use was associated with a stable proportion of patients who maintained their Hb within the target range. ISM costs were higher than IS, but ease of use saved on nursing time, encouraging adherence to the local medicine policy, enabled administration of iv iron without distraction and observation of patients throughout the duration of administration. ISM was associated with a better patient experience without

altered metallic taste after ISM administration. Importantly, no adverse events were reported. On balance, the small increase in cost was felt to be outweighed by the improved staff and patient experience.