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CHRONIC KIDNEY DISEASE PROGRESSION DURING RAMADAN IN HOT AND HUMID COUNTRY LIKE BANGLADESH

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Introduction: Chronic kidney disease (CKD) is common among Muslim patients, and many such patients are keen to fast during the month of Ramadan. The season varies every year .Last year In South Asia the weather was hot, humid with long periods.

Methods: Retrospective study on CKD patients attending outpatients' clinic during Ramadan in Bangladesh. We included 141 patients with CKD stage 2-5 attending routine outpatient's clinic at Kidney Foundation Hospital and Research Institute, Bangladesh during and post Ramadan. The study period was 6 months starting from the month of Ramadan in May till November 2020.

Aim: Fasting for prolonged periods may be deleterious for patients with CKD stage 3 onwards.

Results: 141 patients with CKD stage 2-5 attending outpatient clinic of a tertiary Hospital. Total 93 male (66%) and 48 female (34%). The average age was 55.9(+/-9.5) years. The average weight was 68 (+/-11). There were 12 (8,5%) patients with CKD stage 2, 31(21%) with CKD 3a, 46 (32%) with CKD 3b, 29 (20.6%) with CKD 4 and 9 (6,3%) with CKD 5.13 (9.2%) patients' stage was undetermined during Ramadan. 74 (52%) patients had diabetes,132 (93.6%) had hypertension and 7 (5%) had glomerulonephritis. Other comorbidities were 10 (7%) had ischemic heart disease, 13 (9,2%) had Benign prostatic hypertrophy and 8 (5%) had Hypothyroidism.

Average increase in serum Creatinine after fasting was 31 µmol/L +/-9. 52 patients (36.9 %) developed Acute Kidney Injury (AKI). 10 patients (19%) creatinine returned to baseline , 26 patients (50%) had progression of CKD,16 patients (30%) unknown. Therefore 26 (18.43%) patients had progression of CKD after fasting. Among them Stage remained unchanged in 16 patients (61 %) and in 10 (38%) CKD progressed with an increase in Stage.

Conclusions: Fasting for prolonged periods in summer season with high humidity and hot weather may be deleterious for patients with CKD in Bangladesh.

No conflict of interest

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THE DIFFERENTIAL IMPACT OF TWO NOVEL INTRAVENOUS IRON AGENTS ON FIBROBLAST GROWTH FACTOR 23, PHOSPHATE AND OTHER CLINICAL AND FUNCTIONAL MARKERS: METHODOLOGY AND BASELINE DATA

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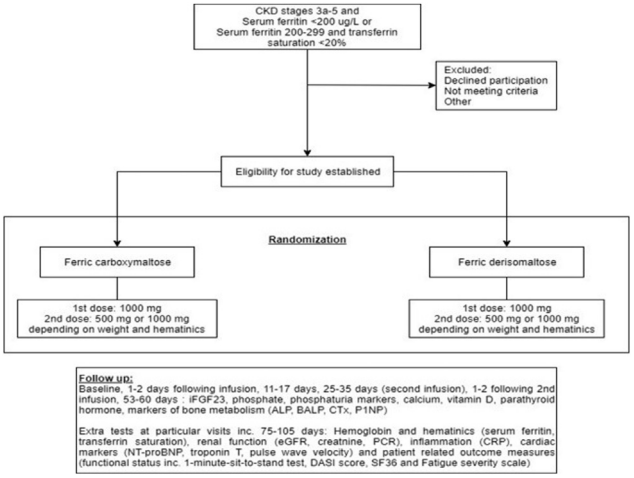
Introduction: Third generation intravenous (IV) iron preparations are increasingly used in the treatment of non-dialysis dependent chronic kidney disease (CKD) associated iron deficiency. Such compounds allow rapid delivery of large concentrations of iron safely at a single sitting. Evidence suggests that their use may lead to improved cardiovascular outcomes. Nonetheless, concerns exist regarding the potential induction of hypophosphatemia via fibroblast-growth-factor 23 (FGF-23) following the use of certain compounds. Raised FGF-23 has been associated with mineral bone and cardiac disorders, alongside prognostic implications. No prior study has provided a head-to-head comparison between iron preparations in CKD. This pilot study is designed to primarily investigate the differential impact of two different IV iron compounds on FGF-23 and phosphate in patients with CKD; secondarily we examine the impact of these compounds on bone markers and functional status, quality of life and cardiovascular function.

Methods: This is a randomized controlled double-blinded pilot study recruiting patients with CKD stage 3a – 5 (non-dialysis) and iron deficiency +/- anemia. Patients are randomized to receive either ferric carboxymaltose or ferric derisomaltose over two infusions (one-month apart) to achieve full repletion. The initial dose administered is 1000 mg for both medications, with 500 mg or 1000 mg reserved for the second dose depending on weight and hematinics. Follow up is over a period of three months following the first infusion with measurements of intact FGF-23, phosphate, phosphaturia, vitamin D, parathyroid hormone, bone metabolism markers, functional status and quality of life and cardiac markers (figure 1).



Results: 168 patients were referred to the specialist renal anemia services for pre-screening. Ninety-nine were contacted for interest to participate, with 64 individuals declining to join. The commonest reason for not participating, was the COVID-19 pandemic (43.3%) with patients not keen to travel. Thirty-five patients were screened, and 27 patients enrolled in the study, of which 26 were randomized to receive iron (figure 2). One patient withdrew from the study, as they were unable to attend appointments following successful screening. In our baseline cohort the median age was 67.9 (12.4) and 17 participants were male. Mean hemoglobin was 100.3 (13.5) and hematinic markers consistent were consistent with iron deficiency. Median eGFR was 18.0 (11.3) ml/min/1.73 m2; the population as expected had a raised intact FGF-23 (212.1 (116.4) pg/ml). Serum calcium and phosphate were within normal parameters, while parathyroid hormone and 1,25 (OH)2 Vitamin D were deranged (Table 1).