water intake and hence the extracellular fluid volume and tissue sodium concentrations that are essentially responsible for high blood pressure and left ventricular hypertrophy in these patients.

Conflict of interest statement. None declared.

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1. Saran R, Bragg-Gresham JL, Rayner HC *et al*. Nonadherence in hemodialysis: associations with mortality, hospitalization, and practice patterns in the DOPPS. *Kidney Int* 2003; 64: 254–262
2. Ferguson AV, Kasting NW. Electrical stimulation in subfornical organ increases plasma vasopressin concentrations in the conscious rat. *Amer J Physiol* 1986; 251: 425–428
3. Smith PM, Beninger RJ, Ferguson AV. Subfornical organ stimulation elicits drinking. *Brain Res Bull* 1995; 38: 209–213
4. Thunhorst RL, Fitts DA. Peripheral angiotensin causes salt appetite in rats. *Amer J Physiol* 1994; 267: 171–177
5. Fitzsimons JT. Angiotensin, thirst, and sodium appetite. *Physiol Rev* 1998; 78: 583–686
6. Demir M, Kutlucan A, Turker Y *et al*. Does the inhibition of rennin–angiotensin system effect on inter-dialytic weight gain in haemodialysis patients? *Nephrol Dial Transplant* 2007; 22(Suppl): 99 (FP239)

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The incidence of biopsy-proven glomerulonephritis in Cairo University, Egypt: a 5-year study

Sir,

The incidence of biopsy-proven glomerulonephritis (GN) varies in different geographical areas and is affected by socio-economic conditions, race, differences in genetic susceptibility and environmental exposure. Recent studies suggested a changing pattern of incidence of GN in different parts of the world [1,2]. For instance, the incidence of end-stage renal disease (ESRD) as a result of focal segmental glomerulosclerosis (FSGS) has increased 11-fold in the past two decades in a recent study [2].

Our study aimed to obtain a comprehensive review of the incidence of biopsy-proven glomerulonephritis in Cairo University, Egypt, over the last 5 years. We analysed the clinical and pathological data of all renal biopsy samples that were obtained during the period from July 2003 to 2008. Age, gender, indication of renal biopsy and the pathological findings were recorded for analysis.

A total of 924 renal biopsy samples were referred for pathological assessment during the period of the study. The monthly incidence of biopsy-proven GN was 15.4 (range 13–19). Proliferative GN was reported in 497 cases (53.78%) and non-proliferative GN was reported in 427 cases (46.22%). Lupus nephritis was reported in 264 cases (28.57%). The female/male ratio was 221/41, 70% of lupus patients aged 18–45 years and 85% had renal impairment (mean serum creatinine was 3.21 $\pm$ 4.09 mg/dl). The common glomerular pathologies in patients with lupus nephritis were the proliferative classes II–IV (28.78, 30.30, 27.65%, respectively).

Morphologically, FSGS was the most frequent cause of GN (21.21%) followed by mesangial proliferative GN (18.93%), diffuse proliferative GN (13.96%), focal proliferative GN (12.77%) and membranous GN (10.93%) (Table 1). In females, mesangial proliferative, focal proliferative GN and diffuse proliferative GN were the predominant pathological findings, and in males FSGS, diffuse proliferative GN and mesangial proliferative GN were predominant. In those aged <18, mesangial proliferative GN, minimal change disease and FSGS were more prevalent compared to adults. Figure 1 shows the frequency of GN in patients with renal insufficiency.

Table 1. Incidence of biopsy proven GNs in the study group

Lupus nephritis (LN-GN): 264 Cases (28.57%)
Focal segmental glomerulosclerosis (FSGS): 185 Cases (20.02%)
Mesangial proliferative GN: 97 cases (10.49%)
Minimal change disease (MCD): 79 Cases (8.55%)
Membranoproliferative GN (MPGN): 68 cases (7.36%)
Membranous Nephropathy (MGN): 65 cases (7.03%)
Amyloid: 51 cases (5.52%)
Diffuse Proliferative GN: 48 cases (5.20%)
Focal Proliferative GN: 34 cases (3.68%)
Diabetic Glomerulosclerosis: 2 cases (0.22%)

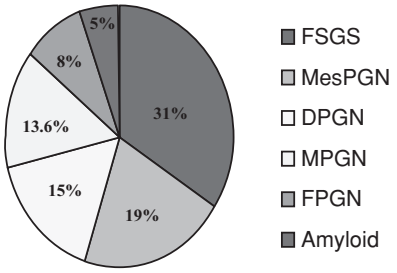

Fig. 1. Incidence of GNs in patients with renal insufficiency [352 cases (38.09%)]. We conclude that FSGS and proliferative GN (SLE and others) were the predominant forms of GN in the population of the study. Compared to other Arab countries, FSGS was the predominant GN in two studies coming from Saudi Arabia [3] and Kuwait [4]. MGN was the predominant GN in two reports from United Arab Emirates and Iran [5,6]. Our results could be explained by high incidence of lupus nephritis among the study subjects as well as the relatively young age of the study group. Further multicentre studies with larger sample size from different parts of the country would give more accurate information on the incidence and frequency of GNs in Egypt.

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1. Swaminathan S, Leung N, Lager D *et al*. Changing incidence of glomerular disease in Olmsted county, Minnesota: a 30-year biopsy study. *Clin J Am Soc Nephrol* 2006; 1: 483–487
2. Kitiyakara C, Eggers P, Kopp JB. Twenty-one year trend in ESRD due to focal segmental glomerulosclerosis in the United States. *Am J Kidney Dis* 2004; 44: 815–825
3. Mitwalli AH, Al Wakeel JS, Al Mohaya SS *et al*. Pattern of glomerular disease in Saudi Arabia. *Am J Kidney Dis* 1996; 27: 797–802
4. El-Reshaid W, El-Reshaid K, Kapoor MM *et al*. Glomerulopathy in Kuwait: the spectrum over the past 7 years. *Ren Fail* 2003; 25: 619–630
5. Yahya TM, Pingle A, Boobes Y *et al*. Data from the United Arab Emirates renal diseases registry. *J Nephrol* 1998; 11: 148–150
6. Naini A, Harandi A, Ossareh S *et al*. Prevalence and clinical findings of biopsy proven glomerulonephritis in Iran Saudi *J Kidney Dis Transplant* 2007; 18: 556–564

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The safety of accelerated infusion versus standard rate infusion of low-molecular-weight iron dextran in patients with chronic kidney disease

Sir,

Low-molecular-weight iron dextran (cosmoFer® (marketed as INFed® in the USA), Pharmacosmos, Denmark) is available as a total dose infusion (TDI) in the United Kingdom (UK). The use of TDI regimen enables patients to receive their iron dose in one visit as opposed to numerous visits required with other preparations. However, the TDI can take up to 8 h and it would be preferable if the infusion could be safely administered over a shorter duration. The aim of this audit was to evaluate the safety of adopting an accelerated regimen of administering TDI low-molecular-weight iron dextran in comparison to standard rate infusion of the same product.

Methods

We conducted a retrospective audit of stage 3–5 CKD patients who had undergone intravenous low-molecular-weight iron dextran TDI at Salford Royal Foundation Trust Hospital (Salford RH) and Sunderland Royal Hospital (Sunderland RH) between 2002 and 2008. Approval for the accelerated rate TDI low-molecular-weight iron dextran protocol was reviewed and granted by the local renal and pharmacy departments.

For TDI, the SmPC states that low-molecular-weight iron dextran should be infused over 4–6 h and so the use of accelerated rate infusion was consequently unlicensed. The decision to receive an accelerated or standard protocol low-molecular-weight iron dextran infusion was made by the patient's consultant.

Sunderland RH patients prescribed 1 g low-molecular-weight iron dextran TDI received this over a period of 1 h 40 min; the total infusion and observation period was 3 h 40 min. The patients at Salford RH received either standard rate infusion or accelerated rate infusion. The standard rate involved 1g infusion over 4 h with total infusion and observation period of 6 h 15 min, whereas accelerated rate patients received 1 g low-molecular-weight iron dextran over 1 h 40 min, total infusion and observation period being 3 h 55 min.

Adverse event rates were recorded. Fisher's exact test was used to evaluate statistically significant difference in adverse events.

Results

Accelerated low-molecular-weight iron dextran infusion was administered to 791 patients at Sunderland RH and Salford RH. This was compared with 188 standard rate infusions at Salford RH.

There were three adverse events associated with the accelerated rate regimen (3/791, 0.4%) and none in patients with standard rate infusions. One patient developed diarrhoea post-infusion that persisted for 48 h. The second patient felt unwell and cold during the infusion with blood pressure rising from a baseline of 116/69 to 136/95, but was apyrexial. Paracetamol was administered and the infusion was continued safely at a slower rate of 120 ml/h. The third patient, who was previously IV iron naïve, had urticaria and associated erythema within 1 min of commencement of the test dose. The infusion was stopped, and chlorpheniramine and hydrocortisone were administered immediately. Iron infusion was deferred and the patient subsequently received an alternative IV iron (venofer®) with no adverse events. There was no statistical difference between adverse events in the two groups (Fisher's exact test; $P = 1.000$).

Discussion

This is the first study to compare the effects of administrating TDI low-molecular-weight iron dextran at accelerated and standard infusion rates in a CKD population. Results suggest that an accelerated rate of low-molecular-weight iron dextran infusion, which is currently an off-licence rate of delivery for this TDI, is as safe as standard rate infusion, and this is of major clinical significance. In particular, it has positive implications for health care resource utilization in the management of renal patients. In a recent editorial, Auerbach *et al*. also commented on the benefit of infusing low-molecular-weight iron dextran at doses ranging from 1000 to 2250 mg over 90 min in ∼150 patients with no adverse events; however, most of their experience was in patients with haematological conditions [1]. The cost benefits of adopting a low-molecular-weight iron dextran TDI protocol (at standard infusion rate) for repleting iron stores in CKD patients has been reported [2,3]. Adoption of an accelerated rate protocol would enable all CKD patients to complete TDI in less than 4 h, which in turn would enable a greater number of patients to undergo iron infusion in any given period. In addition, the benefits of convenience for patients cannot be overstated.