Once weekly administration of erythropoietin

Sir,

Macdougall [1] recently reviewed once weekly administration of erythropoietin in this journal. He highlighted the fact that two randomized controlled studies using erythropoietin beta in selected haemodialysis patients have demonstrated similar efficacy for once weekly dosing compared with twice or thrice weekly dosing while reports by Jones et al. [2] and data from our centre suggested that in unselected patients once weekly dosing may be associated with a fall in haemoglobin (Hb). As Dr Macdougall points out, the data from our centre have only been presented in abstract form [3] and we felt it was important to report this in greater detail.

In February 2001 there were 32 patients on regular hospital haemodialysis at Inverclyde Royal Hospital. Six patients were already on once weekly Epo injections and the remaining 26 converted to reduced frequency Epo dosing: if the total weekly dose of Epo was 10 000 U or less then this was given as a single weekly injection; if the total weekly dose of Epo was >10 000 U then this was given in two divided doses. At that time, all patients were receiving erythropoietin alpha. We recorded average Hb and ferritin levels, average weekly Epo dose corrected for body mass and average weekly intravenous iron dose in the 3 months before conversion and in three consecutive months 1 year later. Exclusions were recurrent gastro-intestinal bleeding during follow up (n=1) and on-going malignancy (n=2). Four patients who died during the follow-up period and three who received renal transplants were also excluded leaving 16 patients for analysis. Mean Hb was significantly lower after conversion to weekly Epo (11.99 g/dl pre-conversion vs 11.03 g/dl post conversion; P=0.002 paired t-test) (Figure 1), and mean serum ferritin was not significantly different (450 vs 388; P=0.15). There was a trend toward higher weekly Epo dose (115 U/kg pre vs 135 U/kg post; P=0.09). There was no significant difference in weekly intravenous iron dose (0.97 mg/kg pre vs 0.79 mg/kg post; P=0.13).

Therefore, after conversion to reduced frequency Epo there was a trend toward higher total weekly Epo requirement to achieve a significantly lower Hb and we would share Jones’ view that caution must be exercised in extrapolating data from a carefully conducted study in a selected patient population to an ‘everyday life’ largely unselected population. The fact that the patients in this study and the patients in Jones’ report received erythropoietin alpha while the patients in the two randomized controlled trials received erythropoietin beta also deserves further attention.

Fig. 1. Average Hb in the 3 months before conversion to reduced frequency Epo administration and in three consecutive months 1 year later in 16 regular haemodialysis patients.