authors rightly indicate, numerous earlier studies have consistently shown the benefits of cool dialysis in the prevention of IDH.

Certainly, prescription of isothermic treatments controlled by the blood temperature feedback module (BTM) is not only appealing from a theoretical point of view, but was also found to be efficacious for the prevention of IDH in the randomized crossover trial by Maggiore et al. [8]. However, a practical drawback for the use of BTM-controlled dialysis is that the frequency is only available on dialysis modules of a single manufacturer, whereas dialysate temperature can be easily adjusted on every dialysis module. Also, a feeling of coldness is not entirely prevented by isothermic dialysis sessions (5% of sessions) [8], which might be theoretically explained by an increase in the temperature setpoint during dialysis.

In our dialysis centre, we have the practice of gradually reducing dialysate temperature from 36.5°C to a minimum of 35.5°C, depending on the haemodynamic response and subjective feelings of comfort in our patients. By this approach, together with strict volume control, aided by the use of vena cava echography, and adjustment of dialysis time according to the haemodynamic response and side effects in the patient, would appear a rational alternative when BTM-controlled modules are not available.

Conflict of interest statement. None declared.

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Investigation of coronary artery calcification and stenosis by coronary angiography (CAG) in haemodialysis patients

Sir,

Coronary artery calcification is observed in many dialysis patients, and its negative impact on their prognosis and resulting cardiovascular complications has been reported [1–3]. However, vascular calcification in dialysis patients is so-called Mönckeberg’s medial calcinosis, which is observed in the media of small and medium sized arteries and is not always associated with stenosis, unlike the vascular calcification complicating intimal atherosclerosis observed in non-dialysis patients [4,5]. Many studies of coronary artery calcification using electron beam computed tomography (EBCT) or multi-detector row computed tomography (MDCT) have recently been published, but they are not adequate to compare coronary artery calcification and coronary artery stenosis [6–9]. Therefore, when we performed coronary angiography (CAG), we evaluated the occurrence of coronary artery calcification (visible on X-ray before using contrast medium) and stenosis (after using contrast medium) in haemodialysis (HD) and non-HD patients, and assessed differences in the site of occurrence at each coronary artery segment [10].

The frequency of calcification and stenosis (>75% in diameter) in each coronary artery segment was examined in all 67 consecutive HD patients who underwent CAG at the Jikei University Hospital from June 2002 to March 2004. As control, 67 patients matched for age, gender, history of diabetes mellitus, hypertension, hyperlipidaemia and smoking habits were selected at random from the 1185 non-HD patients who underwent CAG.

The occurrence of coronary artery calcification was significantly more frequent in the dialysis group than in the non-HD group in 12 out of 16 segments (P < 0.05 by χ² test). However, no significant difference was observed in the occurrence of stenosis between the HD group and the non-HD group. The site with the highest frequency of calcification corresponded to that with the highest frequency of stenosis in the non-HD group, but stenosis was often observed distal to the segment where calcification was common in the HD group (Figure 1).

The finding of no difference in the frequency of stenosis between the HD and non-HD groups, although calcification showed a higher frequency in the HD group, indicates that medial calcification is more common in the HD group, whereas the frequency of intimal calcification/stenosis is comparable in the HD and non-HD groups. However, the fact that stenosis was observed peripheral to the site where calcification was most common in the HD group suggests the possibility that a change of blood flow due to calcification might influence the development of stenosis. Therefore, it is necessary to investigate differences in pathology between the HD and non-HD groups.

Conflict of interest statement. None declared.
Is glucocorticoid-induced osteonecrosis after kidney transplantation related to osteoporosis?

Sir,

Osteopenia and osteonecrosis (ON) cause important long-term morbidity in renal transplant (Tx) patients with coronary artery calcium scores and coronary angiography. Nephrol Dial Transplant 2004; 19: 2307–2312

Fig. 1. Distribution of coronary artery calcification and stenosis in HD and non-HD patients. In the non-HD group, the site with the highest frequency of calcification corresponded to that with the highest frequency of stenosis, but in the HD group, stenosis was often observed distal to the site with the highest frequency of calcification.