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Potential influence of dialysis modality on post-transplantation diabetes mellitus risk

Sir,

We read with interest the article entitled ‘The increased risk of post-transplant diabetes mellitus (PTDM) in peritoneal dialysis-treated kidney allograft recipients’ by Madziarska et al. [1]. While a number of risk factors for PTDM have been identified, previous literature is scarce concerning the potential influence of dialysis modality on PTDM risk. In this study, the authors examined 306 renal transplant recipients (RTRs) among whom 23.4% developed PTDM. In multivariate analysis, older recipient age, a positive family history of diabetes and previous treatment by peritoneal dialysis (PD) were significantly associated with an increased risk of PTDM. We recently formulated an opposite hypothesis for the following reasons. First, we showed that weight gain during the first year after transplantation, a major risk factor for PTDM, was greater in haemodialysis (HD) patients than in PD patients [2]. Ghrelin can significantly increase food intake [3]. Thus, higher ghrelin levels observed in HD patients compared to PD patients can predispose them to an increased risk of weight gain and PTDM [3]. It is interesting to observe that, in the study by Madziarska et al. [1], HD patients had significantly greater weight gain in the first year following transplantation. Second, inflammation is also considered as a risk factor for PTDM and a number of studies have shown a significant increase in inflammatory mediators in HD patients as compared with PD [4]. Third, in our own cohort of RTRs, we observed a lower incidence of PTDM in PD patients [5]. Nevertheless, we believed that a monocentre study is not suitable for consistent conclusions considering the high risk of alpha error of such a result. We performed a multicentre retrospective study including 2010 consecutive RTRs [5]. PTDM was defined as a need for anti-diabetic therapy in the 6 months following renal transplantation. A total of 6.8% of patients developed PTDM. The characteristics of our population were comparable to those of Madziarska’s study. The proportion of patients in each modality of dialysis was similar. The incidence of PTDM was lower probably because of the definition we used. However, most studies on the impact of PTDM on transplant outcomes have used the ‘need for treatment’ as a definition and the observed rate of PTDM is consistent with previous reports from other European centres. In our study, the incidence of PTDM was quite similar in HD and PD patients (7 versus 6.5%, P = 0.85). In multivariate analysis, age, body mass index at transplantation, use of tacrolimus and rejection episodes but not dialysis modality were identified as independent risk factors for development of PTDM. The results of our study show that pre-transplant dialysis modality does not have any impact on the development of PTDM in RTR. We believe that only large multicentre studies are needed to resolve such complex questions.

Conflict of interest statement. None declared.

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Reply

Sir,

We appreciate the interest in our paper [1] expressed by Courivaud and Ducloux. Reading insightfully the original paper ‘Impact of pre-transplant dialysis modality on post-transplant diabetes mellitus after kidney transplantation’ [2] published by the discussants, we found, surprisingly,