increased by 1.9% ± 0.6% (INR catheter: 2.20 ± 0.16; INR peripheral vein: 2.19 ± 0.16).

These results clearly demonstrate that sodium citrate catheter locking minimally interferes with INR measurements when blood is drawn directly from the catheter prior to dialysis treatment. They also demonstrate that the overestimation of INR with heparin locking is more frequent than reported by Grudzinski *et al.* [1]. Hence, the use of citrate catheter locking improves INR measurement reliability and thus facilitates the management of anticoagulation in HD patients.

Conflict of interest statement. None declared.

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Reply

Sir,

We would like to thank Dr Rioux *et al.* for reinforcing our statement that heparin falsely increases INR and this is reversed by the use of sodium citrate 4%, as a catheter locking solution. It seems that our approach was misinterpreted by the correspondents. We purposefully did not include all the cases of false increase in INR associated with heparin contamination. We only included the cases with the most blatant effect (INR > 3.0 and PTT > 100), which usually leads to an inappropriate clinical decision by the treating physician (decrease in the dose or discontinuation of warfarin). Despite this low sensitivity, high specificity approach, the improvement with citrate was seen and cannot be attributed to anything else than to the change in the locking solution. We agree with the correspondents that we included only the tip of the iceberg.

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ABO-incompatible kidney transplantation: on-demand strategy

Sir,

We read with great interest the recent article by Wilpert *et al*., on the alternative strategy to scheduled post-transplant immunoadsorptions after ABO-incompatible renal transplantation [1]. After giving rituximab 4 weeks prior to scheduled transplantation, a triple immunosuppression regimen was started and antigen-specific immunoadsorptions were performed, until IgG-anti-A/B titers equalled 1:4 or less on the morning of transplantation. Wilpert *et al*. did not routinely perform immunoadsorption, unless antibody titers exceed pre-defined thresholds after transplantation. With this approach, 15 of 22 patients did not require post-operative immunoadsorption (post-tx IA). They concluded that immunoadsorbtion can be performed according to post-operative antibody titers in ABO-incompatible kidneytransplantation.

In Table 2, there were three and five patients of living-related kidney transplantation in patients with post-tx IA and without post-tx IA, respectively. Were the rest of the patients living-unrelated kidney recipients? How many spouses, emotionally related or non-directed donors were there? Who covered the cost of these transplantations? Was there any analysis comparing the costs of ABO-mismatch and -match transplantation in this centre? The average dialysis time was 44 ± 32 months before the transplantation. Why is the duration of waiting in dialysis this long while there are living donors? Also, we noticed that 17 months after transplantation, the mean estimated glomerular filtration rates (eGFRs) (not creatinine-clearance) were 50 ml/min/1.73 m^2 (MDRD formula) in patients requiring post-tx IA and 46 ml/min/1.73 m^2 in patients without post-tx IA (Table 2). These are the mean levels; however, considering the number of patients, median levels should have been given with minimum and maximum levels. When looking at the median levels, eGFRs were 53 ml/min/1.73 m^2 in post-tx IA and 45 ml/min/1.73 m^2 in non-post-tx IA group. In this study, eGFR seems to be lower in both groups when compared with large study samples [2].

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Reply

Sir,
We deeply appreciate the interest shown by Drs Keven and Sengul in our article and hope to be able to answer their questions.

(a) There were three living-related kidney donors in patients requiring post-tx IA (one mother, one father and one sister) and five living-related donors in patients not requiring post-tx IA (three mothers, one father and one grandfather). The other 14 kidney donations were living-unrelated donations (13 spouses, 1 good friend). No non-directed donation occurred.

(b) With the exception of the first transplantation, all ensuing procedures were fully covered by the German Health Care System. This also included the costs for immunoadsorptions, rituximab and the hospital stay for patients who eventually could not undergo transplantation.

(c) We estimate the additional costs for an ABO-incompatible transplantation to amount to ∼40 000 Euro per successfully transplanted patient.

(d) Drs Keven and Sengul ask why the average time on dialysis before ABO-incompatible transplantation was as long as 44 ± 32 months although there were living donors. This is a very crucial point: until 2004, a substantial number of dialysis patients in Germany could not be transplanted within a justifiable period of time, because waiting time for a cadaveric kidney equalled an average of 6 years and their putative living donor was ABO incompatible. Meanwhile the technique of ABO-incompatible kidney grafting has been adopted at more than 10 centres across Germany and waiting times have decreased considerably within our program [the median time on dialysis of the first 11 patients enrolled in our program was 40.3 months (0–83.1), while time on dialysis for the next 11 patients was only 20.2 months (0-139)]. Fortunately, there is also a trend towards slightly shorter waiting times for a cadaveric kidney transplant in Germany in recent years.

(e) Drs Keven and Sengul suggest that median levels, instead of mean levels, should have been used to express estimated GFR after the follow-up period of 17 months. This is a very valid point. The median eGFRs were 52.5 ml/min (28.1–74.5) in patients requiring post-tx IA and 44.8 ml/min (25.1–66.3) in patients without post-tx IA.

(f) We are aware that the kidney function is lower compared to large cohorts of kidney transplant patients, like for example the cited Symphony Study—a study cohort that is hard to compare to this group of patients, since it only included ABO-compatible kidney transplantations.

Although recent reports show very encouraging intermediate term results [1], most data comparing the outcome of ABO-incompatible versus ABO-compatible kidney grafts in the long run document a somewhat poorer long-term graft function for ABO-incompatible grafts [2,3]. The presumed better outcome of ABO-compatible transplantations is the reason why we only recommend and perform ABO-incompatible transplantations if the patient definitely has no ABO-compatible donor.

We are glad to report that since submitting the manuscript 9 months ago, there has been a slight improvement of kidney function in our patients. The median eGFR in patients requiring post-tx IA and not requiring post-tx IA were now 50.2 ml/min (34–64) and 51.3 ml/min (30–77), respectively.

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The neglected role of students in international university rankings

Sir,
We read with great interest the paper by Charon and Wauters on ‘University Ranking’ [1]. The authors mentioned that ‘students need rankings to choose where to study’. But could students also influence the ranking of their universities? The answer is no. Worldwide university rankings have been published since 2003, with an aim to determine the actual standing of higher education institutes of an individual country. Universities are ranked by several indicators: academic quality, research performance, graduate employability and international outlook. Interestingly, no student-oriented criterion has been taken into account in these global classifications. University rankings should not

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