Rebuttal: PRO Position

Formal Assessment of Donor Kidney Function Should Be Mandatory

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The gold standard for glomerular filtration rate (GFR) determination is the urinary clearance of inulin under steady-state conditions. Unfortunately, inulin is no longer available in the USA, although it remains widely available in Europe. The best alternative GFR marker to date is iothalamate, which is widely available because of its extensive use in radiology. In our hands, cold, non-isotopic iothalamate given in small doses is easily measurable by HPLC, and its clearance is virtually identical to simultaneously administered inulin. Low-dose iothalamate (450 mg) in several hundred individuals studied by us has never resulted in a serious allergic reaction. Unlike the subcutaneous infusion cited by Rao and colleagues, use of a bolus followed by constant infusion results in a steady state, which is optimal for reliable GFR determination. It is obvious that the use of cold as opposed to isotopic iothalamate also eliminates any exposure to irradiation.

One potential side effect attributed by Rao et al. to water loading to promote diuresis during GFR determination is hyponatremia. In over 3,000 urinary clearance procedures over the past 30 years, we have yet to witness symptomatic hyponatremia. Another limitation is incomplete voiding because of the large water load, particularly in older donors with subclinical bladder dys-

function, presumably attributable to benign prostate hypertrophy. Such inadequate bladder emptying can be easily identified by a large coefficient of variation (CV) among the four clearance periods (intra-test CV). In a sense, this is a useful screening procedure to detect a problem, which either will need correction or result in rejecting the potential donor. In our experience this is a very rare event, and the inter-test CV for iothalamate clearance is only 6%, indicating excellent reproducibility.

The cost of a vial of cold iothalamate is less than that cited by Rao et al. for the isotopes used to determine GFR. We wish to emphasize that cost is not an important factor in the selective use of this technique that we are proposing. We propose to determine GFR only in marginal donors who have a creatinine clearance <90 ml/min/1.73 m², or those who are aging (>55 years). Given the severe limitation of serum creatinine-based estimations of GFR in subjects with normal levels of GFR (e.g. living donors), we believe that the addition of a single procedure, namely a properly determined GFR, is justified to better define the limits of safe donation.