Reply

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Dear Sir,

I carefully read the letter of Boer [1] and, although the interpretation of a mistake in the legend of our figure 1 [2], as expressed in his first point, is correct, I have some comment about the other points. Points 2 and 3: Although uncommon, our data management is correct and does not affect the data significance; furthermore, in the Methods sections we clearly stated that we used a linear regression analysis. Point 4: The relationship between predialysis fNE and the change in fNE is not an example of erroneous use of statistics. Here we report detailed data about fNE variations (table 1, not included in the revised form of our paper for editorial needs). This table points out that in patients with high or very high basal levels of fNE, we found a dialysis-induced decrease (case No. 1–3, 6, 8). The contrary was demonstrated in patients with normal basal values. In the former group the mean change was -374 pg/ml, in the latter it was +77 pg/ml ($p < 0.02$). From these data it is evident that a correlation among pre- and postdialysis values is impossible, as postdialysis data are much less dispersed. Therefore, we think that calculating a linear regression analysis, as reported in figure 1 [2] is correct. Moreover, this analysis simply confirms what is already evident from a raw direct analysis of our data. Of course, we do not agree with the statement that 'The change in fNE is determined to a large extent by predialysis fNE...'. In fact, the variations are often of the same amplitude of basal predialysis values, and, moreover, are negative in 4 cases and positive in 5. The data management we used is widely accepted in important scientific journals, for instance when correlations between arterial levels of metabolites and their A-V differences through a tissue are made [3, 4]. Turning to physiological aspects, when analyzing our data it should be kept in mind that the changes we observed in fNE after dialysis are determined by at least seven factors: (1) predialysis plasma levels; (2) dialysance of fNE; (3) release of new fNE; (4) metabolism of fNE; (5) reuptake of fNE; (6) natural oxidation of fNE, and (7) possible direct conversion of sulfate dopamine to fNE. Besides, owing to its extremely short plasma half-life (about 90 s), the NE molecule must not be considered similar to other more stable molecules such as creatinine or glycoproteic hor-

Table 1. fNE variations
fNE before dialysis fNE after dialysis Δ after-before

Case No.

1
2
3
4
5
6
7
8
9
254
794
847
140
174
245
81
439
119
180
296
200
319
199
209
186
162
233
-74
-498
-647
+ 179
-25
-36
+ 105

-277

+ 114

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mones. Finally NE being released and metabolized almost everywhere in the body tissues, renal failure should not be considered as a particular condition in which NE levels may be grossly altered by dialysis per se.

4 Deferrari G, Garibotto G, Robaudo C, Ghiggeri GM, Tizianello A: Brain metabolism of amino acids and ammonia in patients with chronic renal insufficiency. *Kidney Int* 1981; 20:505–510.

References

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Tizianello A, Deferrari G, Garibotto G, Robaudo C, Acquarone N, Ghiggeri GM: Renal ammoniogenesis in an early stage of metabolic acidosis in man. *J Clin Invest* 1982;69:240–250.