

Dynamics of nutritional and metabolic markers before death in peritoneal dialysis: results from BRAZPD II, a nationwide prospective study

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Background/Aims:

• Mortality is high in dialysis patients. While in hemodialysis patients, a deterioration of key clinical and laboratory indicators before death is well recognized (Usvyat, *Kidney Int* 2013; Usvyat, *Blood Purif* 2013), comparable analyses are not available in peritoneal dialysis (PD) patients.

• The Brazilian Peritoneal Dialysis Multicentric Study (BRAZPD) was launched in December 2004 aiming to collect data monthly and prospectively from a representative cohort of PD patients. These cumulative data allows the observation of trends and changes of many parameters related to the treatment, labs and also patients outcomes.

• Here we aimed to analyze the dynamics of nutritional and metabolic parameters 12 months before death in the BRAZPD cohort.

Material and Methods:

• The prospective BRAZPD cohort study included all prevalent PD patients from 122 Brazilian centers from 12/2004 to 1/2011.

• We analyzed data in patients who died after surviving for at least 12 months on PD.

• Pre-death dynamics of body mass index (BMI), creatinine, phosphate, potassium, and serum glucose were studied in this population.

• Mean and intervals (mean \pm one standard error) were calculated for each variable in each time point during the last 12 months before death.

Results:

• The BRAZPD cohort comprised 9,905 patients, 914 (9.23 %) of those were included in this analysis (median age 65 years; 55% males, 63% white, 54% diabetic); 55% were incident PD patients, CAPD was the initial modality in 61%.

• Average follow-up was 23.7 months (range 12 to 71).

• Creatinine and BMI showed a steady decline 6-7 months before death, with an accelerated decline in the final 3 months (Fig. 1a and 1b).

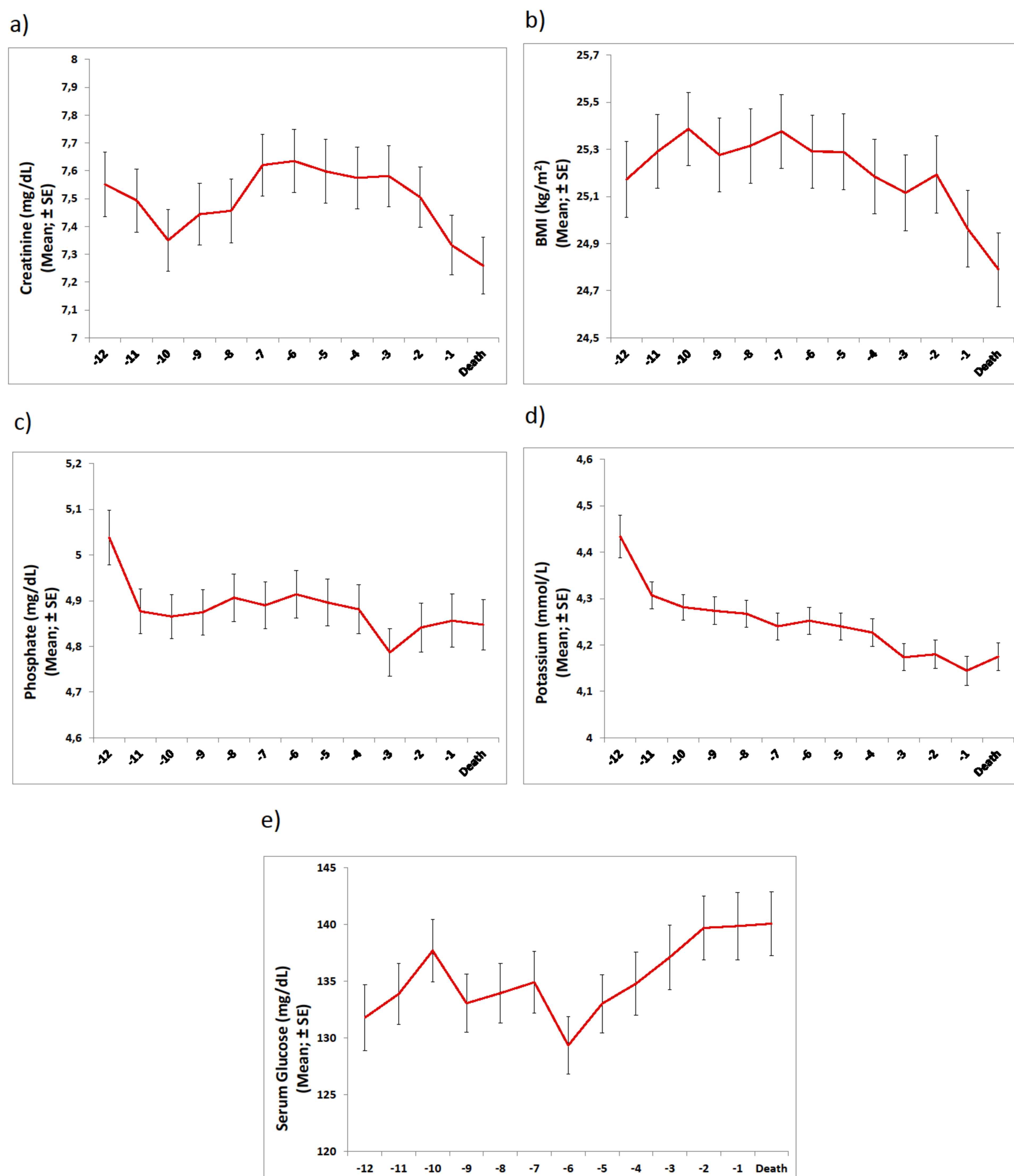
• Phosphate showed a less pronounced dynamic (Fig. 1c).

• Potassium dropped continuously during the 12 months before death (Fig 1d). Serum glucose showed a clear upward dynamic in the final 6 months (Fig. 1e).

Figure 1: Dynamics of nutritional and metabolic variables before death in PD patients.

X axis denotes months before death.

SE: standard error



Conclusion:

- Our prospective PD study indicates dynamical changes of nutritional parameters in the final year before death.
- Some of these changes are comparable to those observed in previous studies on HD patients, indicating common pre-death pathways independent of dialysis modality.
- Strategies to detect these changes could help to improve the outcomes in this population.

References:

- 1) Usvyat, L et al. Interdialytic weight gain, systolic blood pressure, serum albumin, and C-reactive protein levels change in chronic dialysis patients prior to death. *Kidney Int.* **2013** July; 84(1): 149–157.
- 2) Usvyat, L et al. The MONitoring Dialysis Outcomes (MONDO) initiative. *Blood Purif.* **2013**;35(1-3):37-48.
- 3) de Moraes TP et al. Characterization of the BRAZPD II cohort and description of trends in peritoneal dialysis outcome across time periods. *Perit Dial Int.* **2014** Nov-Dec;34(7):714-23.

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BRAZPD II

