

Comparison of Selenium Status of Patients in Hemodialysis from the North and Southeast region, Brazil

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INTRODUCTION

Patients with chronic kidney disease present selenium (Se) plasma deficiency. Se is an essential element with important biological functions and its best known biological role is attributed to its presence in glutathione peroxidase (GPx). The Se content of foods depends on soil and some authors have suggested that Amazon soil has high concentrations of Se when compared to other regions in Brazil.

OBJECTIVES

The objective of this work was to compare the Se status in hemodialysis (HD) patients from the North region (Amazon) with patients from the Southeast region in Brazil.

METHODS

Thirty-eight patients from Southeast region (22 men and 16 women, 15% diabetic, 53.5 ± 26.4 yrs) were compared to forty patients from North region (28 men and 12 women, 22.5% diabetic, 63.5 ± 11.9 yrs). Se in plasma was determined through atomic absorption spectrophotometry with hydride generation (HITACHI®, Z-500). Statistical analyses were performed using SPSS 17.0.

RESULTS

The plasma Se levels of the Southeast region were significantly lower (17.5 ± 11.9 µg/L) when compared to the patients from North region (37.1 ± 15.8 µg/L) ($p < 0.001$). However, both patient groups presented low Se plasma levels when compared to normal values (60-120 µg/L) (Figure 1).

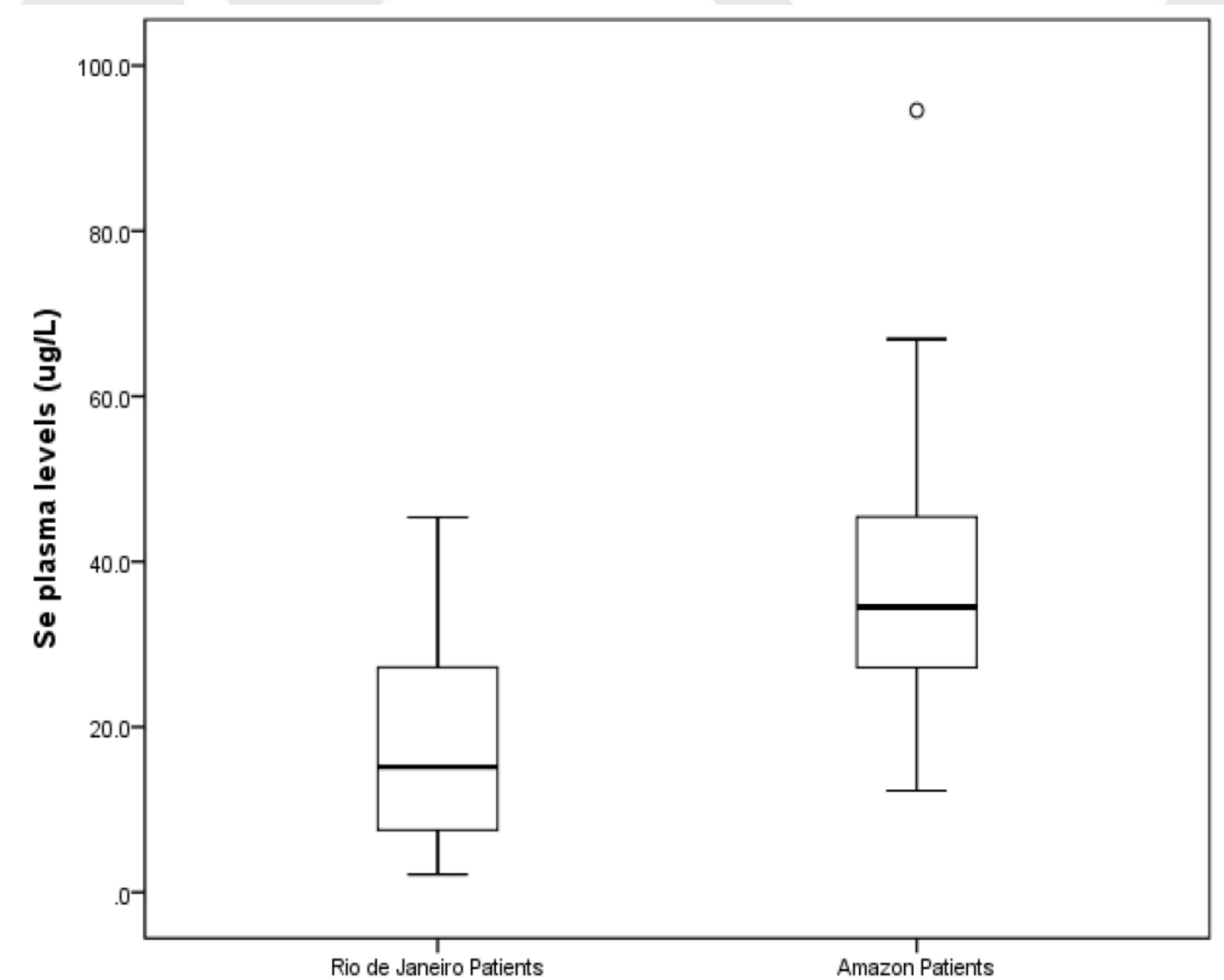


Figure 1. Comparison of plasma Se levels between Southeast patients and North region patients.

CONCLUSION

We concluded that patients from North (Amazon) region present higher plasma Se levels when compared to the patients from Southeast of Brazil and this difference could be explained by high concentrations of Se in the soil in the Amazon region. However, independently of the region, both groups of patients present Se deficiency. Thus, more attention should be pay to Se status in HD patients.

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