Lead Overload in Patients with Renal Insufficiency

B.	Bernd	Winterberg ^a
R.	Rüdiger	Fischer ^b
R.	Reinhard	Korte ^b
H.-P.	Hans-Peter	Bertram ^c

^aMedical Policlinic, University of Münster, ^bMarienhospital, Emsdetten, and ^cInstitute for Pharmacology and Toxicology, University of Münster, FRG

Bernd Winterberg, MD, Medical Policlinic, University of Münster, Albert-Schweitzer-Strasse 33, D-4400 Münster (FRG)

Dear Sir,

Recently Martegani et al. [1] described a significant increase in erythrocyte zinc protoporphyrin IX levels in patients with chronic renal failure and – even more – in hemodialysis patients. This may indicate an increased lead body burden in patients with renal failure, if erythrocyte zinc protoporphyrin IX does not accumulate in these patients by impaired or lacking renal elimination. However, in our opinion, the question of the authors: ‘Does lead overload develop in hemodialysis patients?’ can now be clearly answered with ‘yes’.

Table 1. Bone lead in patients at various stages of renal insufficiency

We measured the bone lead in patients without known lead exposure at various stages of renal function and after renal transplantation and found it to be increased corresponding to the serum creatinine with highest levels in hemodialysis patients (table 1). The results were statistically significant: $p = 0.034$ [2]. These data show that the lead body burden depends on renal function and point to the impact of prevention of exposition to trace elements which may have a toxic effect.

References

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