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Authors

Molnar, Miklos Z

Tabak, Adam G

Alam, Ahsan

et al.

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RO-020 SERUM ERYTHROPOIETIN LEVEL AND MORTALITY IN KIDNEY TRANSPLANT RECIPIENTS

Miklos Z. Molnar^{1,2,3}, Adam G. Tabak⁴, Ahsan Alam⁵, Maria E. Czira², Anna Rudas¹, Akos Ujszaszi¹, Kamyar Kalantar-Zadeh^{3,6}, Csaba P. Kovcsy^{7,8}, Adam Remport⁹, Istvan Mucsi^{1,2,5}. ¹Institute of Pathophysiology, Semmelweis University, Budapest, Hungary; ²Institute of Behavioral Sciences, Semmelweis University, Budapest, Hungary; ³Harold Simmons Center for Chronic Disease Research & Epidemiology, Los Angeles Biomedical Research Institute at Harbor-UCLA Medical Center, Torrance, CA, USA; ⁴Department of Epidemiology and Public Health, University College London, London, United Kingdom; ⁵Dept. of Medicine, Division of Nephrology, McGill University Health Centre, Montreal, QC, Canada; ⁶Nephrology, David Geffen School of Medicine at UCLA, Los Angeles, USA; ⁷Division of Nephrology, Salem VA Medical Center, Salem, VA, USA; ⁸Division of Nephrology, University of Virginia, Charlottesville, VA, USA; ⁹Division of Nephrology, Szent Imre Hospital, Budapest, Hungary

Background: Post-transplant anemia is frequently reported in kidney transplant recipients and is associated with worse patient survival. Similarly to high erythropoiesis stimulating agent requirements, resistance to endogenous erythropoietin may be associated with worse clinical outcomes in patients with end stage renal disease.

Methods: We collected socio-demographic, clinical, medical and transplant history and laboratory data at baseline in 886 prevalent kidney transplant recipients. A solid-phase chemiluminescent immunometric assay was used to measure serum erythropoietin. Cox proportional hazards regression was employed to model the association between baseline serum erythropoietin levels and all-cause mortality risk.

Results: During the median 39 months follow-up, 99 subjects died. The mortality rate was significantly higher in patients with higher erythropoietin levels (crude mortality rate [95%CI] in the highest to lowest erythropoietin tertiles were 51.7 [38.6–69.3], 35.5 [25–50] and 24.0 [15.8–36.4] per 1,000 patient-years, respectively (p=0.008)). In unadjusted and also in adjusted Cox models each SD higher serum erythropoietin level significantly predicted all-cause mortality (HR and 95%CI): HR_{1 SD increase} 1.22 (1.12–1.33) and 1.28 (1.02–1.62), respectively. In adjusted Cox models each SD higher serum erythropoietin/blood hemoglobin ratio also significantly predicted all-cause mortality: HR_{1 SD increase} 1.32 (1.05–1.67). The association of serum erythropoietin level (A) and serum erythropoietin level/blood hemoglobin ratio (B) with mortality was monotonously up-going when modeled as a continuous variable and using fractional polynomials and cubic splines.

Conclusions: In this sample of stable prevalent kidney transplant recipients, higher serum erythropoietin levels were associated with increased mortality.

