

UC Irvine

UC Irvine Previously Published Works

Title

ASSOCIATION OF SOLUBLE ENDOTOXIN RECEPTOR CD14 AND MORTALITY IN HEMODIALYSIS (HD) PATIENTS (PTS)

Permalink

<https://escholarship.org/uc/item/6qf0q0b3>

Journal

AMERICAN JOURNAL OF KIDNEY DISEASES, 53(4)

ISSN

0272-6386

Authors

Raj, Dominic
Rambod, Mehdi
Shah, Vallab
[et al.](#)

Publication Date

2009

Copyright Information

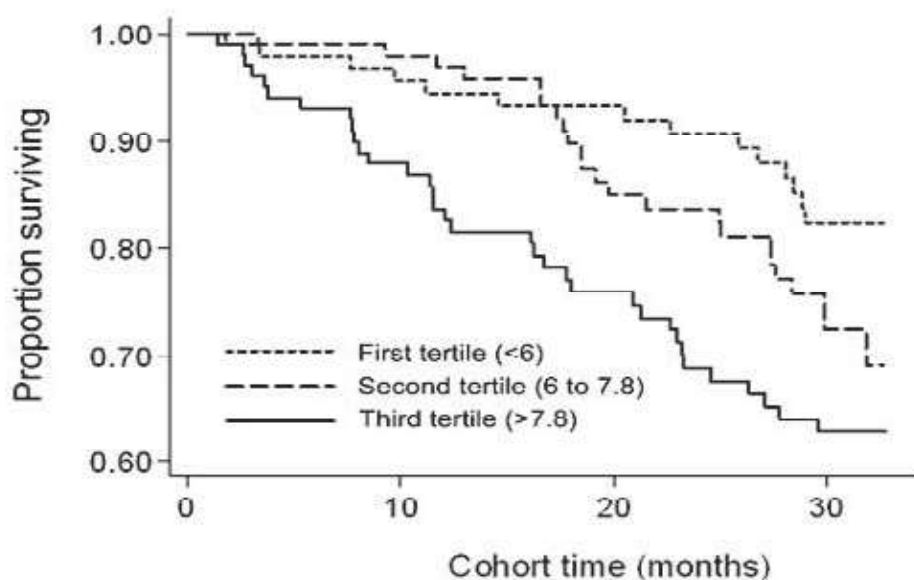
This work is made available under the terms of a Creative Commons Attribution License, available at <https://creativecommons.org/licenses/by/4.0/>

Peer reviewed

ASSOCIATION OF SOLUBLE ENDOTOXIN RECEPTOR CD14 AND MORTALITY IN HEMODIALYSIS (HD) PATIENTS (PTS)

Dominic Raj, Mehdi Rambod, Vallab Shah, Kamyar Kalantar-Zadeh.
Division Nephrology, Univ. of New Mexico, NM; and Harold Simmons Center, Harbor-UCLA, Torrance, CA

CD14 is involved in innate immunity mediating cell activation & signaling in response to endotoxin. We hypothesized that elevated sCD14 in HD pts is associated inflammatory cytokine activation & increased mortality. We measured sCD14 level in a cohort of 310 HD pts. The mean sCD14 was 7.24 ± 2.45 $\mu\text{g/ml}$. Tumor necrosis factor- α (TNF- α) was the strongest correlate of sCD14 ($r=0.24$, $p<0.001$) followed by interleukin (IL)-6 ($r=0.18$, $p=0.002$), ferritin ($r=0.21$, $p<0.001$), transferrin ($r=-0.19$, $p<0.001$). Over the 33 months follow-up, 71 pts died. Multivariable Cox analysis adjusted for case-mix & other nutritional/inflammatory confounders including serum TNF- α , C-Reactive protein, & IL-6 showed that compared to lowest sCD14 tertile, sCD14 levels in the third tertile (>7.8 $\mu\text{g/ml}$) were associated with higher death risk (hazard ratio 1.94; 95% CI 1.01-3.75, $p=0.04$).



Thus, elevated sCD14 is positively related to markers of inflammation, negatively to nutritional status & an independent predictor of mortality. Further studies are needed to examine the usefulness of sCD14 in risk stratification & clinical decision-making process in HD pts.