

International Conference on

NEPHROLOGY

November 19-21, 2018 Cape Town, South Africa

Low IgM antibodies levels against malondialdehyde associates with all-cause mortality in patients undergoing hemodialysis

Shailesh Kumar Samal
Karolinska Institute, Sweden

Background: Malondialdehyde (MDA) is by-product of lipid peroxidation as in oxidized low-density lipoprotein. Antibodies against phosphorylcholine have been previously evaluated in prevalent hemodialysis dialysis patients. We here studied the association between IgM antibodies against MDA (anti-MDA) and risk of death in patients undergoing hemodialysis.

Aim: To see the association of natural IgM antibodies against MDA with all-cause mortality in prevalent hemodialysis patients.

Methods: Low levels of IgM anti-MDA conjugated with human serum albumin concentrations were measured by direct Enzyme Linked Immune-Sorbent Assay (ELISA). The association between IgM anti-MDA and five-year all-cause mortality was investigated. We performed post hoc data analyses in 210 prevalent hemodialysis patients (median age 66 years; 44% female). The patients with an anti-MDA value below cut-off value are compared with a crude hazard ratio. Cox regression analysis, after adjusted by age, gender, diabetes, cardiovascular disease, dialysis vintage and level of interleukin 6, the association between lower IgM anti-MDA level and all-cause mortality was performed.

Results: Among 210 hemodialysis patients, 137 patients (65%) had a IgM anti-MDA level >71.3 U/mL (cut-off value derived from receiver operating characteristic analysis). The patients with an anti-MDA value below cut-off value had a higher mortality rate with a crude Hazard Ratio (HR) of 1.95 (95% CI 1.33-2.88). In Cox regression analysis, after adjusted by age, gender, diabetes, cardiovascular disease, dialysis vintage and level of interleukin 6, the association between lower IgM anti-MDA level and all-cause mortality remained significant (HR 1.79; 95% CI 1.19 - 2.70).

Conclusion: Low levels of natural IgM antibodies against MDA are independently associated with all-cause mortality in prevalent hemodialysis patients.

Biography

Shailesh Kumar Samal has his expertise in the field of Clinical Immunology. His research interests mostly focused on "Targeting extracellular vesicles for diagnosis and treatment of vascular calcification".

shailesh.samal@ki.se

Notes: