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Dialysis

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An effect that parameters using body composition monitor have on hemodialysis patients: A systematic review and meta-analysis of observational studies.

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Background: It is reported that, with regard to assessment of patients' nutritional status, the interest in sarcopenia has recently risen, and an effect is produced on mortality as well, and overhydration in hemodialysis patient has an effect not only patient's cardiovascular mortality but also prognosis. The purpose of this study is to examine what effect is produced on hemodialysis patient by the measurement of tissue index and overhydration degree, using body composition monitor.

Methods: A systematic review and meta-analysis using a random-effects model was performed We searched the Cochrane Central Register, OVID MEDLINE, EMBASE, and Pubmed until March 15, 2016. We reviewed the reference lists of relevant reviews, registered trials, and relevant conference proceedings. Definition of overhydration group >15% and low LTI group <10% compare with reference group.

Results: Six trials were included, consisting of a total of 39615 patients In the pooled analysis, In overhydration group, The pooled hazard ratio (HR) for overall survival of overhydration vs.non overhydration was 2.01 ([95% confidence interval (CI): 1.397-2.890, P = 0.001). HR for mortality in Low LTI Group was 1.53 (95% CI), 1.407 to 1.670]; P=0.001) in a random-effects model respectively. In the sensitivity analysis, the result from the most recent study showed the most heterogeneity.

Conclusion: Being diagnosed with low lean tissue index and determining whether to be overhydrated by using BCM may become a factor in increasing mortality in dialysis patients

Keywords: Body composition monitor, Hemodialysis, Lean tissue index, Overhydration