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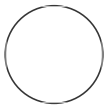
**Protocol status:** Working
We use this protocol and it's working

# Assocation of serum galectin-3 with survival, cardiovascular disease and kidney function decline in patients with chronic kidney disease: a systematic review

Ioannis Bellos[1], Vassiliki Benetou[1]

[1]Department of Hygiene, Epidemiology and Medical Statistics, National and Kapodistrian University of Athens, Medical School, Athens, Greece

Ioannis | DP and CS



Ioannis Bellos

ABSTRACT

Galectin-3 is a $\beta$-galactoside−binding lectin, which is secreted by endothelial cells, vascular smooth muscle cells and macrophages, with potential prognostic role in patients with heart failure and atherosclerotic disease. The present study represents a systematic review aiming to shed light on the potential clinical utility of serum galectin-3 in patients with chronic kidney disease. The potential prognostic role of serum galectin-3 levels will be evaluated in regards to overall survival, kindey disease progression, cardiovascular outcomes and echocardiographic parameters.

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1 Objective To determine the association of serum galectin-3 levels with survival, kidney disease progression and cardiovascular disease in patients with pre-dialysis chronic kidney disease.

2 Eligibility criteria The population of the study will consist of adults with diagnosed with chronic kidney disease, without the need for renal replacement therapy. Hemodialysis patients, peritoneal dialysis patients and kidney transplant recipients will be excluded. The exposure of interest will be serum galectin-3 levels. The primary outcome of interest will be all-cause mortality. Secondary outcomes will include kidney disease progression, cardiovascular mortality, cardiovascular events, and echocardiographic parameters. Cohort (prospective and retrospective), case-control and cross-sectional studies will be held eligible. Descriptive, animal and in vitro studies, as well as case reports/series and review articles will be excluded.

3 Literature search Literature search will be performed by systematically searching from inception PubMed, Scopus, Web of Science and CENTRAL (Cochrane Central Register of Controlled Trials). In addition, Google Scholar will be screened to provide grey literature coverage, while the full reference lists of the included studies will be examined to recognize potential missing articles. No date/language restrictions will be applied.

4 Data extraction The following data will be extracted: year of publication, country, eligibility criteria, sample size, study design, type of population, participants' age, sex, percentage of hypertension, diabetes mellitus, estimated glomerular filtration rate, history of cardiovascular disease, as well as the necessary information regarding the outcomes of interest.

5 Quality assessment The risk of bias of the included studies will be evaluated with the ROBINS-I tool, adjusted for exposure studies, taking into account the following domains: confounding, selection of participants, classification of exposures, departures from intended exposures, missing data, measurement of outcomes and selection of the reported results.

6 Data analysis All outcomes will be evaluated qualitatively. Pre-piloted forms will be used to capture all the necessary information regarding the outcomes of interest. Serum galectin-3 levels could be evaluated as a continuous variable or as a binary one in case cut-off values are introduced. For time-to-event endpoints, hazard ratios will be extracted. Regression coefficients will be used to assess the association of serum galectin-3 with echocardiographic parameters. Statistical significance will be defined by the two-sided p-value threshold of 0.05.