

A systematic comparison of the performance of the three widely used cardiac biomarker-based staging systems for the management of patients with systemic light chain amyloidosis

Retrospective study

1224 Patients with systemic light chain amyloidosis (AL) (Median age 63 years, 60% male)

Median estimated time of observation 45.5 months (95% CI, 41.7 to 50.8)

STEP 1 Evaluation of the influence of two high-risk conditions on the applicability of the most widely staging systems (MAYO2004, MAYO3b and MAYO2012)

	Overall survival (months)
415 Patients with impaired renal function $eGFR < 50 \text{ ml/min/1.73m}^2$ *Estimated glomerular filtration rate	17.5 vs 52.9 (control) $p < 0.0001$
183 Patients with any kind of atrial arrhythmia (AF)	12.6 vs 45.5 (control) $p < 0.0001$

- Risk of death was almost doubled by either comorbidity
- MAYO3b staging system is superior to the MAYO2004 and MAYO2012 systems in patients with impaired kidney function

STEP 2 Evaluation of additional prognostic value of $eGFR < 50$ and AF in the context of the three staging systems

Multivariable analyses

	prognostic value of AF	prognostic value of $eGFR < 50$
MAYO2004	significant	significant
MAYO3b	significant	non significant
MAYO2012	significant	significant

- $eGFR < 50$ did not retain the prognostic significance only with MAYO3b system

STEP 3 Comparison of the overall performance of these staging systems

Kaplan-Meier estimates

- MAYO3b system was superior in detecting the patients with the best and worst prognosis in the entire cohort and in each subgroup