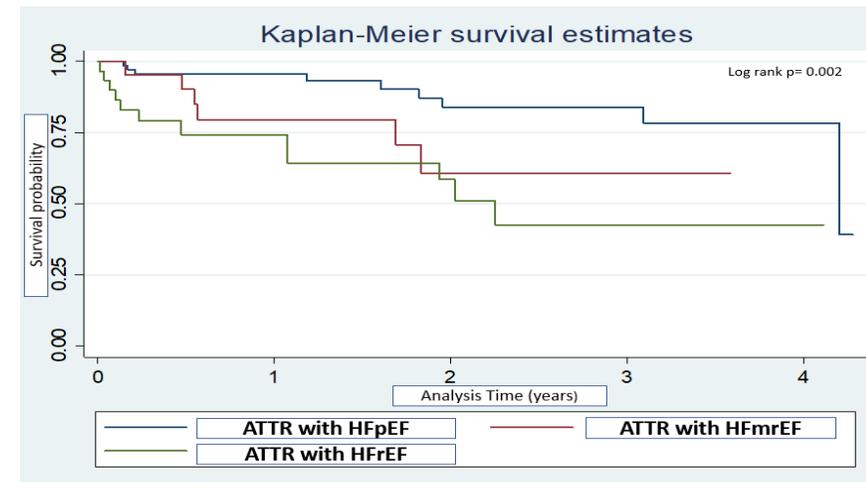
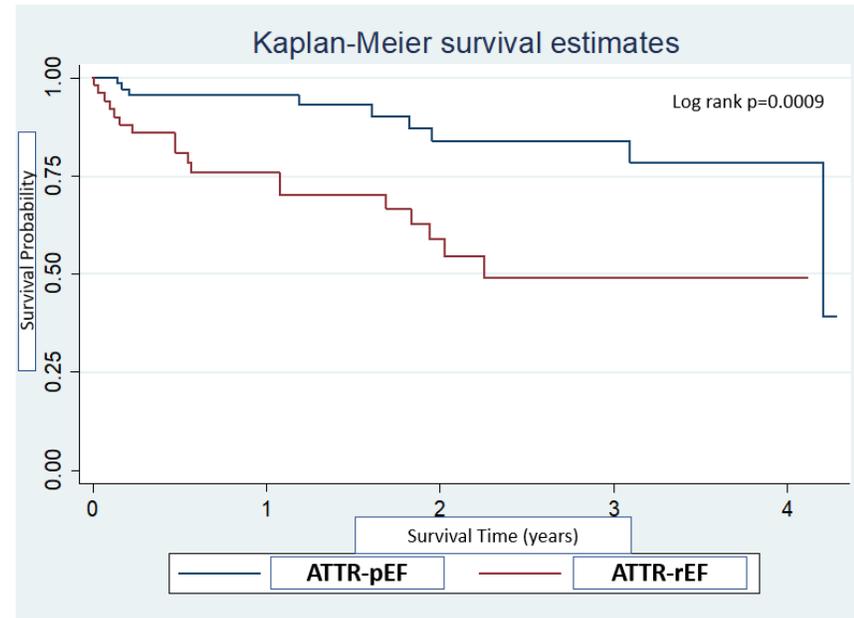


Introduction:

- Transthyretin amyloid cardiomyopathy (ATTR-CA) is an increasingly recognized etiology of heart failure with preserved ejection fraction (HFpEF).
- We sought to determine the prevalence of heart failure with reduced ejection fraction (HFrEF) in ATTR-CA and its prognostic implications.

Methods:

- We analyzed patients with the diagnosis of ATTR-CA in our prospective Tc-99m pyrophosphate (PYP) registry.
- The diagnosis was non-invasively established based on positive PYP (defined as Perugini grade ≥ 2 and diffuse myocardial tracer uptake on the SPECT) and negative serum studies for AL amyloidosis.
- The transthoracic echocardiogram (TTE) at the time of PYP was used to identify patients with reduced EF $< 50\%$ (ATTR-rEF) and preserved EF $\geq 50\%$ (ATTR-pEF).
- Kaplan-Meier curve for survival between the two groups and multivariable logistic regression analysis were generated.



ATTR: Transthyretin cardiac amyloidosis; HFpEF: Heart failure with preserved ejection fraction (EF $\geq 50\%$)
HFmrEF: Heart failure with mid range ejection fraction (EF 41-49%); HFrEF: Heart failure with reduced ejection fraction (EF $\leq 40\%$)

Results:

- Of the 124 ATTR-CA patients (mean age of 79.9 ± 7.4 , 87% men, 90% Caucasians), 51 (41%) were ATTR-rEF.
- Compared to ATTR-pEF, at the time of PYP, ATTR-rEF were more symptomatic (NYHA-FC ≥ 3 , 61% vs 26%, $p < 0.001$), had lower CAD prevalence (37% vs 55%, $p = 0.05$), worse mean diastolic dysfunction (3 vs 2.15, $p < 0.01$), lower TAPSE (< 1.7 , 59% vs 25%, $p < 0.001$) and higher creatinine (1.63 ± 0.85 vs 1.27 ± 0.55 mg/dl, $p < 0.01$).
- There was no difference in terms of biomarkers (BNP, $p = 0.1$ and troponin, $p = 0.3$) and interventricular septal thickness ($p = 0.2$).
- Over a mean follow up period of 1.5 ± 0.3 yrs, 27 (22%) patients died. ATTR-rEF was associated with higher mortality compared to ATTR-pEF (35% vs 12%, $p = 0.002$; OR 3.9, 95%CI 1.57-9.57, $p = 0.003$).
- On multivariable logistic regression analysis adjusting for TAPSE and creatinine, reduced EF was an independent predictor of mortality (OR 2.13, 95% CI 0.01-0.31, $p = 0.03$).

Conclusions:

- HFrEF is present in more than one-third of patients with ATTR-CA at the time of diagnosis, and is an independent predictor of mortality in ATTR-CA.