



Quality of Care and Outcomes Assessment

TELOMERE LENGTH IS ASSOCIATED WITH SURVIVAL AMONG PATIENTS REFERRED FOR ANGIOGRAPHY

Poster Contributions

Poster Sessions, Expo North

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Background: Telomere length (TL) is a correlate of biological age and has been associated with risk for coronary artery disease (CAD) and longevity. We tested for associations between TL and cardiovascular outcomes and all-cause mortality among patients (pts) referred for coronary angiography.

Methods: Peripheral blood DNA was obtained from consenting pts (n=3569) at angiography, and TL measured in triplicate by monochrome (SYBR Green I) multiplex quantitative PCR (Bio-Rad CFX384 Detection System) and normalized to a quantitatively-measured, single-copy gene (albumin) in the same reaction. Pt information was extracted from Intermountain Healthcare's electronic records database, and survival status was verified by a national death index.

Results: Pts were a mean of 62.9 yrs (± 13.48); 91.3% were white and 63.8% were male, 2257 pts (63.2%) had CAD. During follow-up (median 9.2 yrs, IQR 2.5 yrs), 1122 pts (32%) died, 530 (15%) had MI, and 232 (6.5%) had subsequent CVA. TL was correlated with age ($r = -0.244$, $p < 0.0001$). In univariate analysis longer TL was associated with a decrease risk of CAD (OR= 0.54, $p < 0.0001$) and decreased risk for death (HR 0.51, $p < 0.0001$) but only the association with death remained after adjustment for age and other risk factors (HR= 0.78, $p = 0.01$). TL was not associated with MI or CVA (Table).

Conclusions: TL is a strong univariable predictor of survival that is not eliminated by adjustment for age and other risk factors. The relationship of TL to survival deserves further investigation.

Follow-up Outcome	Univariate				Multivariate Without Age				Multivariate With Age			
	HR	95% CI for			HR	95% CI for			HR	95% CI for		
Death	0.51	0.43	0.62	<0.0001	0.57	0.47	0.69	<0.0001	0.78	0.64	0.94	0.01
MI	0.85	0.65	1.12	0.25	0.99	0.76	1.30	0.97	0.99	0.75	1.30	0.95
CVA	0.61	0.40	0.91	0.02	0.78	0.52	1.18	0.24	0.98	0.65	1.49	0.93

Hazard ratio=HR, confidence interval=CI. Multivariate variables: Gender, hypertension, hyperlipidemia, diabetes, family history, smoking, BMI, h/o MI, h/o CVA, h/o heart failure, h/o renal failure, ACS, PCI done, CABG, statins use, beta blocker use, ACEI use, diuretic use, and number of vessels with CAD