

LONGITUDINAL PERFORMANCE ASSESSMENT FOR PREDICTING ADVERSE OUTCOMES IN OLDER COMMUNITY-DWELLING MEN



THE ADDED VALUE TO SINGLE TIME POINT TIMED UP AND GO ASSESSMENT

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AIMS

To assess whether the change of patients' Timed Up and Go (TUG) performance over time (longitudinal assessment) adds value to the prediction of all-cause mortality and health-related quality of life compared to single time point TUG assessment at baseline, in older community-dwelling men.

METHODS

- Longitudinal study: started in 1996 with follow-up visits annually until 2000, one visit in 2003, and thereafter follow-up by telephone.
- Population-based** sample of 352 ambulatory older men (Merelbeke)
- The **TUG test** was performed at each visit until 2000 to assess subjects' physical performance. Mean annual change in performance time was calculated using linear regression analyses with data from 1997 until 2000.
- Data on **all-cause mortality** were obtained by contacting proxies and the treating general practitioners by telephone. The most recent update was completed on 31 December 2011. Cox proportional hazards model adjusted for age and baseline TUG were used.
- Health-related Quality of Life** was assessed using eight subscales of the **Short Form-36** (Range 0 – 100, higher scores indicate better quality of life). Associations with low quality of life in 2003 were examined using logistic regression models adjusted for age and baseline TUG.
- Subjects with low performance (TUG > 20s) or function (RDRS-2 > 16 / 32) at baseline and subjects who were deceased before 2000 were excluded from the analyses.

RESULTS

Table 1. Characteristics in 1997 of subjects included in survival analyses (N=195) and analyses on health-related quality of life in 2003 (N=99)

1997	N = 195 Median (IQR)	N = 99 Median (IQR)
Age (years)	75 (73 – 77)	74 (73 – 77)
BMI (kg / m ²)	26.6 (24.6 – 28.7)	26.6 (24.7 – 28.4)
Medication	2 (1 – 4)	2 (1 – 3)
TUG test (sec)	10.50 (9.11 – 12.30)	10.35 (8.95 – 11.63)
Annual decline in TUG (sec / year)	0.05 (-0.4 – 0.6)	-0.08 (-0.45 – 0.26)
Survival Time (years)	8.3 (3.9 – 11.3)	11.3 (7.3 – 11.4)
General Health score (SF36 item)	65 (55 – 80)	70 (59 – 80)

Figure 1. Age-adjusted survival curve (N=195)

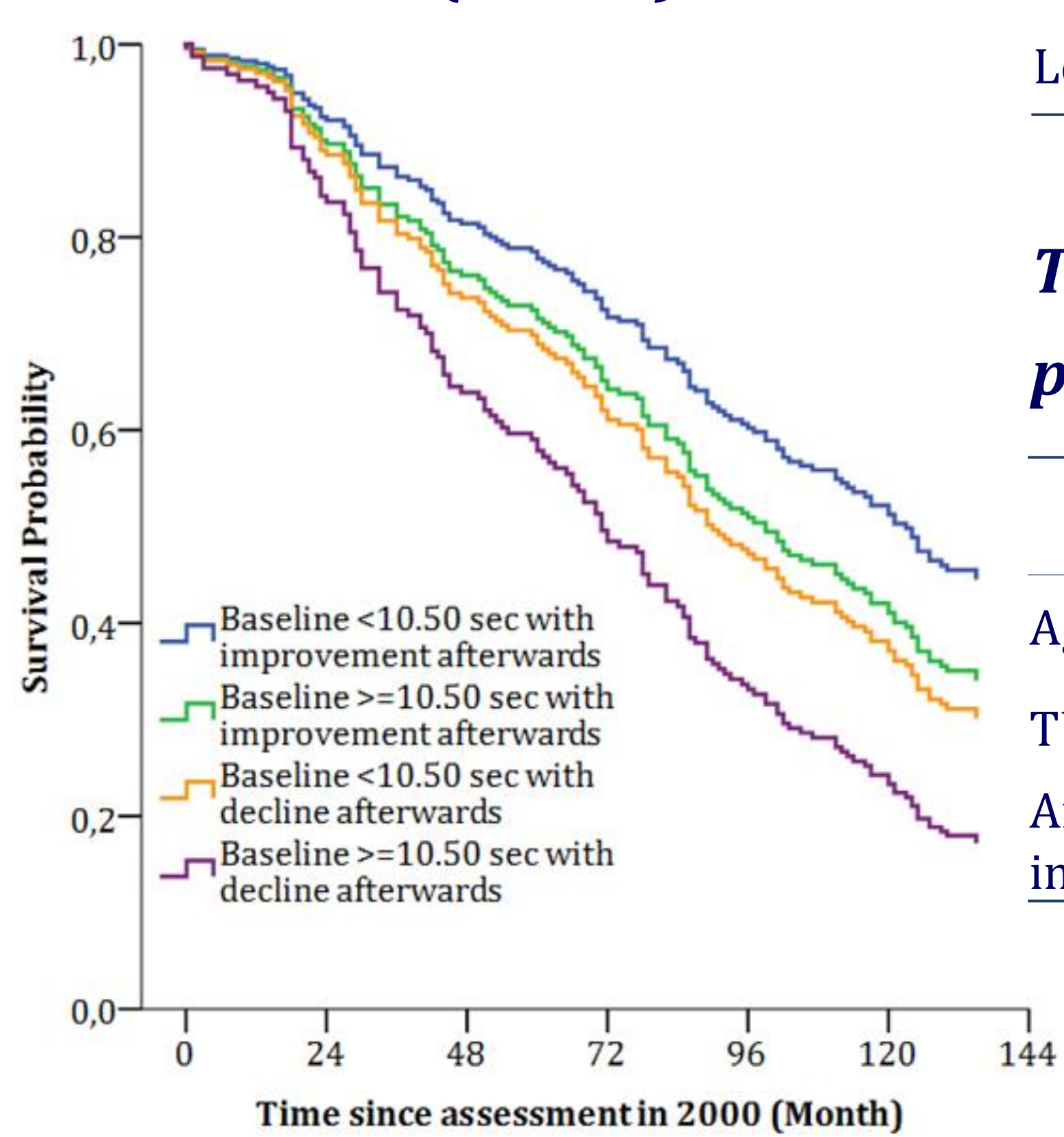


Table 2. Survival characteristics (N=195)

By the end of 2011	N (%)
Alive	65 (33.3%)
Deceased	129 (66.2%)
Lost to follow-up	1 (0.5%)

Table 3. Cox regression analysis predicting all-cause mortality (N=195)

	HR	95% CI	Wald	P
Age (years)	1.07	1.02 – 1.13	7.1	0.008
TUG test (sec)	1.08	1.00 – 1.17	3.5	0.060
Annual decline in TUG (sec / year)	1.40	1.17 – 1.68	13.3	< 0.001

Table 4. Logistic regression models with annual decline in TUG (sec/year) predicting low health-related quality of life in 2003 (adjusted for age and baseline TUG) (N=99)

SF-36 scale (cut-off value corresponding to lowest quartile in 2000)	Odds Ratio	95% CI	Wald statistic	P
General Health (< 50)	1.05	0.55 – 1.99	0.02	0.880
Mental Health (< 68)	0.90	0.48 – 1.69	0.11	0.740
Vitality (< 60)	1.14	0.60 – 2.15	0.15	0.695
Bodily Pain (< 64)	1.96	0.99 – 3.91	3.68	0.055
Physical Function (< 55)	2.29	1.12 – 4.71	5.10	0.024
Social Function (< 75)	2.10	1.07 – 4.14	4.60	0.032
Physical Role (< 25)	2.02	1.01 – 4.05	3.90	0.048
Emotional Role (< 67)	1.20	0.63 – 2.28	0.32	0.574

CONCLUSIONS

Longitudinal assessment of physical performance adds value to the prediction of all-cause mortality and low health-related quality of life compared to single time point TUG assessment at baseline.

Take home message:

Our results encourage annual assessment of physical performance in order to track decline after baseline.