

APPENDIX 1

Serum biomarkers' analysis techniques

Serum albumin was analyzed by bromocresol green colorimetric assay (Cobas C701; Roche Diagnostic, Indianapolis, IN, USA), CRP by immunoturbidimetry (Cobas C502; Roche Diagnostic, Indianapolis, IN, USA), creatinine and glucose by enzymatic assay (Cobas C701; Roche Diagnostic, Indianapolis, IN, USA), total IGF-1 by chemiluminescent immunometric assay (Immulite 2000; Siemens Healthcare Diagnostic) while Vitamin D 25-OH was analyzed by the electrochemiluminescence immunoassay (ECLIA; Cobas C602; Roche Diagnostic, Indianapolis, IN, USA).

Serum biomarkers' coefficients of variation

Albumin

2.5% for a concentration of 43 g/L

3.2% for a concentration of 30 g/L

Creatinine

2.5% for a concentration of 83 $\mu\text{mol/L}$

1.6% for a concentration of 630 $\mu\text{mol/L}$

CRP

1.5% for a concentration of 6 mg/L

3.0% for a concentration of 30 mg/L

Vitamin D

8.1% for a concentration of 45 nmol/L

3.5% for a concentration of 90 nmol/L

Glucose

1.5% for a concentration of 3.3 mmol/L

1.3% for a concentration of 19.0 mmol/L

IGF-1

7.5% for a concentration of 34 $\mu\text{g/L}$

3.6% for a concentration of 93 $\mu\text{g/L}$

3.5% for a concentration of 571 $\mu\text{g/L}$

APPENDIX 2

Biomarkers' clinical threshold values and baseline distribution of serum biomarkers

Albumin (g/L)

Low: < 35

Normal: 35 - 50

High: > 50

Normal values: normal or high (≥ 35)

At risk values: low (< 35)

Creatinine ($\mu\text{mol/L}$)

Low: male < 55; female < 45

Normal: male: 55 - 105, female: 45 - 85

High: male > 105; female > 85

Normal values: normal or low (male ≤ 105 ; female ≤ 85)

At risk values: high (male > 105; female > 85)

CRP (mg/L)

Normal: < 10

High: ≥ 10

Normal values: < 10

At risk values: ≥ 10

Vitamin D 25-OH (nmol/L)

Low: < 50

Normal: 50 – 125

High: > 125

Normal values: 50 - 125

At risk values: low or high (< 50 or > 125)

Glucose (mmol/L)

Normal: ≤ 6.0

High: > 6.0

Normal values: ≤ 6.0

High values: > 6.0

IGF-1 ($\mu\text{g/L}$)

Low: < 50

Normal: 50 - 270

High: > 270

Normal values: normal or high (≥ 50)

At risk values: low (< 50)

The threshold clinical values used for each biomarker are those used at the CHU de Québec and are generally clinically recognized as “normal”, “low” or “high” values, reflecting a normal or impaired physiological state.

Distribution of serum biomarkers

	N (%)
Albumin (g/L)	
Low: < 35	4 (2.1)
Normal: 35 – 50	179 (94.2)
High: > 50	7 (3.7)
Mean value ^a	43.6 ± 4.2
Creatinine (µmol/L)	
Low: male < 55; female < 45	1 (0.5)
Normal: male: 55 - 105, female: 45 – 85	144 (75.8)
High: male > 105; female > 85	45 (23.7)
Mean value male ^a	94.2 ± 24.5
Mean value female ^a	74.0 ± 20.3
Mean value total ^a	84.7 ± 24.7
CRP (mg/L)	
Normal: < 10	149 (78.4)
High: ≥ 10	41 (21.6)
Mean value ^b	10.8 (8.3-14.0)
Vitamin D (nmol/L)	
Low: < 50	46 (24.3)
Normal: 50 – 125	122 (64.6)
High: > 125	21 (11.1)
Mean value ^a	80.5 ± 38.9
Glucose (mmol/L)	
Normal: ≤ 6.0	99 (52.7)
High: > 6.0	89 (47.3)
Mean value ^a	6.8 ± 2.3
IGF-1 (µg/L)	
Low: < 50	12 (6.5)
Normal: 50 – 270	172 (93.0)
High: > 270	1 (0.5)
Mean value ^a	129.7 ± 56.0

n = 190 patients with baseline serum biomarkers

^aResults are present as means ± standard deviation

^bResults for CRP are presented as geometric mean and 95% confidence interval

APPENDIX 3

Overall prospective 3-months functional decline and mobility characteristics^a

Indicators	Baseline N*(%)	3-months N*(%)	p-value
Functional status (OARS)			
No decline	-----	137 (81.6)	NA
↓ OARS ≥ 2 pts	-----	16 (9.5)	NA
↓OARS-ADL ≥ 1 pt	-----	28 (16.7)	NA
Total score	28±1	27±2	0.02
Mobility characteristics			
OARS - IADL (< 14/14)	40 (23.8)	34 (20.4)	NS
Slow walkers (Timed-Up-Go ≥ 15 seconds)	16 (40.0)	6 (15.0)	0.0075
Occasional use of a walking aid	22 (15.1)	29 (19.9)	0.0522
Less than 5 outings/week	37 (25.0)	48 (32.4)	0.0782
Short FES-1 (VAS < 9.8/10)	63 (41.7)	76 (50.3)	0.0579

^aAnalysis performed only with patients who had baseline and 3-months values.

OARS: Older American Adult resources and Service scale

Short FES-1: Short Falls Efficacy Scale (fear of falling)