

SCIENTIFIC REPORTS



OPEN

Author Correction: A Donor Quality Index for liver transplantation: development, internal and external validation

Published online: 05 October 2018

Audrey Winter^{1,2,3}, Cyrille Féray⁴, Etienne Audureau⁵, Daniel Azoulay⁶, Corinne Antoine⁷, Jean-Pierre Daurès^{1,2} & Paul Landais¹

Correction to: *Scientific Reports* <https://doi.org/10.1038/s41598-018-27960-7>, published online 29 June 2018

This Article contains errors.

In Table 1, the formatting for the header “Recipient characteristics” is incorrect. The correct Table 1 appears below:

¹Department of Biostatistics, UPRES EA2415, Clinical Research University Institute, Montpellier, France. ²Beau Soleil Clinic, Montpellier, France. ³Department of Radiological Sciences, University of California, Los Angeles, CA, USA. ⁴Department of Hepatology, Henri Mondor Hospital, Créteil, France. ⁵Department of Public Health, Henri Mondor Hospital, Créteil, France. ⁶Department of Surgery, Henri Mondor Hospital, Créteil, France. ⁷Agence de la Biomédecine, Saint-Denis, France. Correspondence and requests for materials should be addressed to A.W. (email: audrey.winter89@gmail.com)

Donor characteristics		Mean survival (sd)	P-value
Sex (%):			0.37
Male	55.01	4.55 (0.05)	
Female	44.99	4.56 (0.08)	
Cause of death (%):			<0.01
Cerebrovascular accident	60.29	4.44 (0.05)	
Trauma	24.64	4.69 (0.07)	
Anoxia	12.02	4.80 (0.11)	
Other	3.05	4.72 (0.21)	
Diabetes (%):			0.98
yes	7.75	4.56 (0.14)	
no	92.25	4.56 (0.04)	
ABO group (%):			0.22
A	44.58	4.57 (0.06)	
B	9.87	4.72 (0.12)	
O	41.93	4.49 (0.06)	
AB	3.61	4.78 (0.19)	
Hypertension (%):			0.21
yes	35.70	4.49 (0.07)	
no	64.30	4.60 (0.05)	
Malignancy (%):			0.43
yes	1.89	4.72 (0.26)	
no	98.11	4.49 (0.04)	
Alcohol (%):			0.53
yes	15.02	4.50 (0.10)	
no	84.98	4.57 (0.04)	
Smoking (%):			0.47
yes	37.59	4.59 (0.06)	
no	62.41	4.53 (0.05)	
Drugs (%):			0.52
yes	4.17	4.65 (0.19)	
no	95.83	4.56 (0.04)	
Hepatitis C virus antibody (%):			0.46
+	0.45	4.09 (0.56)	
-	99.55	4.53 (0.04)	
Hepatitis B core antibody (%):			0.62
+	4.39	4.61 (0.18)	
-	95.61	4.53 (0.04)	
Inotropes (dobutamine, dopamine, noradrenaline, epinephrine) (%):			0.72
yes	39.16	4.57 (0.06)	
no	60.84	4.55 (0.05)	
Liver type (%):			0.44
Partial/split	5.10	4.43 (0.17)	
Total	94.90	4.55 (0.04)	
Age (%):			<0.001
≤69	76.47	4.64 (0.04)	
>69	23.53	4.27 (0.09)	
Height (%):			0.07
<162	22.62	4.42 (0.08)	
≥162	77.38	4.60 (0.04)	
Weight, mean (sd)	72.88 (15.17)		
BMI, mean (sd)	25.33 (4.62)		
Sodium: latest (mmol/L) (%):			0.04
136–146	43.85	4.47(0.06)	
other	56.15	4.63(0.05)	
Sodium: highest (mmol/L), median (range)	149 (120–180)		
MDRD creatinine clearance: latest (ml/min/1.73 m ²) (%):			0.01
<60	25.30	4.38 50.08)	

Continued

Donor characteristics		Mean survival (sd)	P-value
60–89	29.51	4.55 (0.07)	
≥90	45.19	4.66 (0.06)	
MDRD creatinine clearance: lowest (ml/min/1.73 m ²) (%):			0.01
<60	35.35	4.41 (0.07)	
60–89	36.83	4.61 (0.06)	
≥90	27.82	4.68 (0.07)	
Aspartate aminotransferase: latest (U/L), median (range)	39 (0–2000)		
Aspartate aminotransferase: highest (U/L), median (range)	51 (9–2000)		
Alanine transaminase: latest (U/L) (%):			0.04
7–41	67.33	4.50 (0.05)	
other	32.67	4.67 (0.07)	
Alanine transaminase: highest (U/L), median (range)	33 (1–2000)		
Total bilirubin: latest (μmol/L), median (range)	10 (0–150)		
Total bilirubin: highest (μmol/L), median (range)	12 (1–150)		
Alkaline phosphatases: latest (U/L) (%):			0.06
<33	4.44	4.26 (0.19)	
33–96	76.12	4.54 (0.04)	
>96	19.44	4.71 (0.08)	
Alkaline phosphatases: highest (U/L) (%):			0.09
<33	1.78	4.22 (0.31)	
33–96	72.22	4.51 (0.05)	
>96	26.00	4.67 (0.07)	
Gamma glutamyl transpeptidase: latest (U/L), median (range)	30 (0–1477)		
Gamma glutamyl transpeptidase: highest (U/L), median (range)	36 (1–1835)		
Intensive care unit stay (in days) (%):			<0.001
≤4	79.68	4.48 (0.04)	
>4	29.32	4.83 (0.08)	
Estimated distance between donor and recipient location (minutes) (%):			<0.01
<15	22.60	4.77 (0.08)	
≥15	77.40	4.50 (0.04)	
“Hors tour” (%):			0.84
yes	6.08	4.57 (0.16)	
no	93.92	4.55 (0.04)	
Donor risk index, mean (sd)	1.65 (0.40)	—	—
Eurotransplant donor risk index, mean (sd)	1.63 (0.36)	—	—
UK Donor Liver Index, mean (sd)	1.15 (0.26)	—	—
Recipient characteristics		Mean survival (sd)	P-value
Sex (%):			0.91
Male	73.54	4.55 (0.05)	
Female	26.46	4.56 (0.08)	
Cancer (%):			0.29
yes	29.00	4.62 (0.07)	
no	71.00	4.53 (0.05)	
Decompensated cirrhosis (%):			<0.001
yes	37.74	4.73 (0.06)	
no	62.26	4.46 (0.05)	
Non-cirrhotic liver disease (%):			0.63
yes	1.41	4.63 (0.30)	
no	98.59	4.48 (0.04)	
Emergency (%):			<0.001
yes	6.72	3.78 (0.17)	
no	93.28	4.58 (0.04)	
MELD exception (%):			0.36
yes	18.00	4.45 (0.09)	
no	82.00	4.57 (0.04)	
Previous transplantation (%):			<0.001
yes	8.58	3.76 (0.15)	

Continued

Recipient characteristics		Mean survival (sd)	P-value
no	91.42	4.60 (0.04)	
On dialysis (%):			<0.001
yes	5.33	3.43 (0.19)	
no	94.67	4.58 (0.04)	
Medical condition before LT (%):			<0.001
Intensive care unit	17.70	3.88 (0.11)	
Hospital (no intensive care unit)	13.88	4.60 (0.10)	
Not hospitalized	68.42	4.71 (0.04)	
Hepatitis B core antibody (%):			0.73
+	20.05	4.53 (0.09)	
-	79.95	4.56 (0.04)	
Hepatitis C virus antibody (%):			<0.001
+	23.83	4.23 (0.08)	
-	76.17	4.66 (0.04)	
Diabetes (%):			0.06
yes	22.67	4.42 (0.08)	
no	77.33	4.60 (0.04)	
Encephalopathy (%):			<0.001
grade 1	68.14	4.62 (0.05)	
grade 2	24.84	4.52 (0.08)	
grade 3	7.02	3.95 (0.17)	
ABO group (%):			0.80
A	45.44	4.56 (0.06)	
B	11.16	4.63 (0.11)	
O	39.03	4.55 (0.06)	
AB	4.37	4.43 (0.19)	
Age, mean (sd)	53.24 (10.39)		
Body mass index (%):			0.20
<18.5	3.56	4.35 (0.21)	
18.5–25	44.69	4.50 (0.06)	
≥25	51.75	4.62 (0.05)	
Model for end stage liver disease before LT (%):			<0.001
<29	72.73	4.65 (0.04)	
≥29	27.27	4.32 (0.08)	
Waiting time (in days) (%):			<0.001
<21	24.54	4.34 (0.08)	
≥21	75.46	4.63 (0.04)	
Follow-up (years), mean (sd)	2.33 (1.63)		

Table 1. Donor and recipient characteristics with Log-rank test p-value for qualitative variables and quantitative variables across risk groups when significant threshold was met.

In addition, Table 2 contains formatting errors. The correct Table 2 appears below:

	Covariates	Model 1	Model 2	Model 3	Final model
Donor	Age	×	×	×	×
	Cause of death	×	×	×	×
	Intensive care unit stay	×	×	×	×
	ABO group	×			× (adjustment)
	MDRD creatinine clearance: lowest	×			×
	Partial/split liver	×			×
	Alcohol	×			
	Alkanine phosphatases: latest		×		
	Estimated distance			×	
Recipient	Re-transplantation	×	×	×	×
	On dialysis	×	×	×	×
	Medical condition before LT	×	×	×	×
	Hepatitis C virus antibody	×	×	×	×
	Diabetes	×	×	×	×
	Decompensated cirrhosis	×	×	×	×
	MELD exception	×			×
	ABO group	×			×
Performances	C-index	0.626(0.009)	0.616(0.009)	0.616(0.009)	0.625(0.009)
	K statistic	0.617(0.007)	0.611(0.008)	0.610(0.008)	0.616(0.007)
	R_D^2	0.518(0.020)	0.492(0.021)	0.492(0.021)	0.516(0.021)

Table 2. Retained covariates in the different selection way. Covariates in bold are those which appeared in the three selection models. Model 1: A complete model with selection according to the Akaike criterion; Model 2: (1) log rank tests with a threshold of 20%, (2) multivariate model included the selected covariates with a selection threshold set at 20%; Model 3: (1) log rank tests with a threshold of 20%, (2) two multivariate models for donor and recipient with the selected covariates with a selection threshold set at 20%, (3) multivariate model with all the covariates selected with a selection threshold set at 20%. The retained full model included all the variables present in at least two of the three models and the set of covariates retained in addition.

Finally, there are errors in Table 5, where the formatting of the “Donor characteristics” header is incorrect. Additionally, the word “Hospital” is incorrectly given as “Hospitai” and the P-values for “ICU stay (in days)” and “Clearance MDRD: lowest (ml/min/1.73 m2)” are omitted. The correct Table 5 appears below as Table 3:

Recipient characteristics	2009–2013 (n = 3961)	2014 (n = 1048)	P-values
Expert component (no)	3248 (82%)	874 (83.4%)	0.31
ABO group			0.59
A	1800 (45.44%)	465 (44.37%)	
AB	173 (4.37%)	38 (3.63%)	
B	442 (11.16%)	118 (11.26%)	
O	1546 (39.03%)	427 (40.74%)	
Re-transplantation (no)	3621 (91.42%)	961 (91.7%)	0.82
On dialysis (no)	3750 (94.67%)	987 (94.18%)	0.58
Medical condition before LT			0.45
Home	2710 (68.42%)	705 (67.27%)	
Hospital	550 (13.89%)	140 (13.36%)	
ICU	701 (17.7%)	203 (19.37%)	
Hepatitis C virus antibody (-)	3017 (76.17%)	811 (77.39%)	0.43
Diabetes (no)	3063 (77.33%)	793 (75.67%)	0.27
Decompensated cirrhosis (no)	2466 (62.26%)	667 (63.65%)	0.43
Donor characteristics	2009–2013 (n = 3961)	2014 (n = 1048)	P-values
ABO group			0.75
A	1766 (44.58%)	460 (43.89%)	
AB	143 (3.61%)	32 (3.05%)	
B	391 (9.87%)	102 (9.73%)	
O	1661 (41.93%)	454 (43.32%)	
Age			<0.01
≤69	3029 (76.47%)	710 (67.75%)	
>69	932 (23.53%)	338 (32.25%)	
COD			<0.01
Anoxia	476 (12.02%)	150 (14.31%)	
CVA	2388 (60.29%)	651 (62.12%)	
Trauma	976 (24.64%)	231 (22.04%)	
Other	121 (3.05%)	16 (1.53%)	
ICU stay (in days)			0.23
≤4	3156 (79.68%)	853 (81.39%)	
>4	805 (20.32%)	195 (18.61%)	
Clearance MDRD: lowest (ml/min/1.73 m ²)			0.55
<60	1400 (35.34%)	385 (36.74%)	
60–89	1459 (36.83%)	388 (37.02%)	
≥90	1102 (27.82%)	275 (26.24%)	
Liver type (entire)	3759 (94.9%)	1007 (96.09%)	0.13

Table 3. Differences in donor and recipient characteristics between the derivation and validation datasets (P-values, χ^2 tests and ANOVA when appropriate).



Open Access This article is licensed under a Creative Commons Attribution 4.0 International License, which permits use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons license, and indicate if changes were made. The images or other third party material in this article are included in the article's Creative Commons license, unless indicated otherwise in a credit line to the material. If material is not included in the article's Creative Commons license and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder. To view a copy of this license, visit <http://creativecommons.org/licenses/by/4.0/>.

© The Author(s) 2018