

Statins in High-Risk Chronic Obstructive Pulmonary Disease Outpatients: No Impact on Time to First Exacerbation and All-Cause Mortality – The STATUETTE Cohort Study [Corrigendum]

Damkjær M, Håkansson K, Kalleose T, Ulrik CS, Godtfredsen N. *Int J Chron Obstruct Pulmon Dis*. 2021;16:579–589.

The authors have advised that the statistical analysis script incorrectly labelled patients receiving ICS/LABA-

combination inhalers as only receiving LABA. The error has resulted in an incorrect prevalence of ICS treatment in [Table 1](#) on page 583 (7% instead of the correct 55%) as well as some changes in regression covariable estimates in [Table 2](#) on page 584. The correct [Tables 1 and 2](#) are shown below.

Table 1 Demographics of 950 COPD Patients, Divided by Statin Treatment Status, at a University Hospital Outpatient Clinic

	Total, N = 950 ^a	Statin Users, N = 393 ^a	Non-Users, N = 557 ^a	p-value ^b
Male (sex)	448 (47%)	207 (53%)	241 (43%)	0.005
Age	71 (11)	73 (9)	69 (11)	< 0.001
BMI	25.5 (5.8)	26.3 (5.5)	24.9 (5.9)	< 0.001
History of smoking				0.701
Current smoker	247 (26%)	101 (26%)	146 (26%)	
Ex. smoker	665 (70%)	279 (71%)	386 (69%)	
Never-smoker	37 (3.9%)	13 (3.3%)	24 (4.3%)	
Missing values	1	1	0	
Pack years of smoking	43 (30, 51)	45 (32, 55)	40 (30, 50)	< 0.001
Missing values	74	26	48	
FEV1%pred	44 (33, 57)	45 (35, 60)	43 (31, 56)	0.015
Missing values	1	0	1	
GOLD stage 1-4				0.137
GOLD 1	39 (4.1%)	19 (4.8%)	20 (3.6%)	
GOLD 2	332 (35%)	149 (38%)	183 (33%)	
GOLD 3	392 (41%)	162 (41%)	230 (41%)	
GOLD 4	186 (20%)	63 (16%)	123 (22%)	
MRC	3.30 (1.21)	3.33 (1.16)	3.28 (1.25)	0.633
Missing values	11	6	5	
History of severe exacerbations (previously)	211 (22%)	89 (23%)	122 (22%)	0.848
GOLD A-D groups				0.626
A	219 (24%)	83 (22%)	136 (26%)	
B	308 (34%)	134 (35%)	174 (33%)	
C	57 (6.3%)	24 (6.3%)	33 (6.2%)	
D	327 (36%)	138 (36%)	189 (36%)	
Missing values	39	14	25	

(Continued)

Table 1 (Continued).

	Total, N = 950 ^a	Statin Users, N = 393 ^a	Non-Users, N = 557 ^a	p-value ^b
Comorbidities				
Atrial fibrillation	157 (17%)	82 (21%)	75 (13%)	0.003
Hypertension	469 (49%)	266 (68%)	203 (36%)	<0.001
Stable ischemic heart disease	79 (8.3%)	67 (17%)	12 (2.2%)	<0.001
History of ACS	59 (6.2%)	49 (12%)	10 (1.8%)	<0.001
Diabetes type I or II	140 (15%)	110 (28%)	30 (5.4%)	<0.001
History of stroke	102 (11%)	77 (20%)	25 (4.5%)	<0.001
Congestive heart failure	76 (8.0%)	53 (13%)	23 (4.1%)	<0.001
Cancer (any type)	128 (13%)	56 (14%)	72 (13%)	0.623
Peripheral vascular disease	57 (6.0%)	44 (11%)	13 (2.3%)	<0.001
Osteoporosis	241 (25%)	101 (26%)	140 (25%)	0.903
Concomitant asthma	176 (19%)	58 (15%)	118 (21%)	0.015
Total cholesterol (mM)	4.62 (1.62)	4.98 (1.07)	4.23 (1.12)	<0.001
Missing values	196	32	164	
Single bronchodilator (LABA or LAMA)	818 (86%)	332 (84%)	486 (87%)	0.223
Dual bronchodilators (LABA and LAMA)	260 (27%)	154 (28%)	106 (27%)	0.876
ICS	520 (55%)	198 (50%)	322 (58%)	0.023

Notes: ^aStatistics presented: n (%); mean (SD); median (IQR). ^bStatistical tests performed: chi-square test of independence; Wilcoxon rank-sum test.

Abbreviations: LABA, long-acting beta2-agonist; LAMA, long-acting muscarinic antagonist; ICS, inhaled corticosteroids; ACS, acute coronary syndrome; BMI, Body Mass Index; GOLD, Global Initiative for Chronic Obstructive Lung Disease; FEV1%pred, predicted forced expiratory volume in one second; MRC, Medical Research Council score.

Table 2 A Time-Varying Covariate Cox Proportional Hazard Regression for Association of Statin Use and Hazard Ratio (HR) for Time to First Exacerbation in 950 COPD High-Risk Outpatients

	Crude			Adjusted			Interaction CVD		
	HR	95% CI	p-value	HR	95% CI	p-value	HR	95% CI	p-value
Statin use	1.10	0.92, 1.32	0.276	1.16	0.97, 1.41	0.108	1.14	0.88, 1.49	0.359
Age				1.02	1.01, 1.03	<0.001	1.02	1.01, 1.03	<0.001
Sex									
Male				1			1		
Female				1.09	0.91, 1.30	0.371	1.09	0.91, 1.31	0.330
Congestive heart failure				1.03	0.75, 1.41	0.858	1.02	0.74, 1.40	0.924
BMI				0.99	0.97, ~1.00	0.075	0.98	0.97, 1.00	0.065
GOLD 1-4 stage									
GOLD 1				1			1		
GOLD 2				3.57	1.45, 8.77	0.006	3.54	1.44, 8.71	0.006
GOLD 3				5.36	2.19, 13.1	<0.001	5.32	2.17, 13.0	<0.001
GOLD 4				8.91	3.61, 22.0	<0.001	8.86	3.59, 21.9	<0.001
LABA or LAMA				0.98	0.74, 1.29	0.869	0.98	0.74, 1.29	0.883
LABA and LAMA				1.04	0.82, 1.32	0.792	1.05	0.83, 1.33	0.826
ICS				1.45	1.15, 1.84	0.002	1.45	1.15, 1.84	0.002
Cardiovascular disease							1.09	0.79, 1.53	0.592
Statin use* Cardiovascular disease							0.97	0.62, 1.50	0.879

Note: The analysis was stratified for smoking status.

Abbreviations: HR, hazard ratio; CI, confidence interval; BMI, body mass index; GOLD, Global Initiative for Chronic Obstructive Lung Disease severity staging; LABA, long-acting beta2-agonist; LAMA, long-acting muscarinic antagonist; ICS, inhaled corticosteroids.

Page 579, Abstract, Results section, the text “When stratifying for moderate and severe exacerbations in a sub-analysis in the same model, statin use did not have an increased HR for exacerbation of either severity (HR = 1.02 (95% CI 0.85 to 1.24; $p = 0.811$) and HR = 1.07 (95% CI 0.89 to 1.29; $p = 0.492$) respectively)” should read “When stratifying for moderate and severe exacerbations in a sub-analysis in the same model, statin use did not have an increased HR for exacerbation of either severity (HR = 1.02 (95% CI 0.85 to 1.23; $p = 0.812$) and HR = 1.07 (95% CI 0.89 to 1.29; $p = 0.457$) respectively)”.

Page 584, right column, second paragraph, the text “When stratifying for moderate and severe exacerbations in a sub-

analysis in the same model, statin use was not to reduced time to AECOPD for either severity (HR = 1.02 (95% CI 0.85 to 1.24; $p = 0.811$) and HR = 1.07 (95% CI 0.89 to 1.29; $p = 0.492$) respectively)” should read “When stratifying for moderate and severe exacerbations in a sub-analysis in the same model, statin use was not to reduced time to AECOPD for either severity (HR = 1.02 (95% CI 0.85 to 1.23; $p = 0.812$) and HR = 1.07 (95% CI 0.89 to 1.29; $p = 0.457$) respectively)”.

The authors apologize for the error and advise the prevalence and regression analyses does not change the conclusions of the paper nor does it affect the presented main outcomes of the study.

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