

Supplementary Material

Article Title: Early Onset Delirium During Hospitalization Increases In-Hospital and Postdischarge Mortality in COVID-19 Patients: A Multicenter Prospective Study

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LIST OF SUPPLEMENTARY MATERIAL FOR THE ARTICLE

1. [Table 1](#) Prevalence of Chronic Diseases in the Total Sample and by Delirium
2. [Figure 1](#) Kaplan-Meier Survival Curves for Participants by Type of Delirium
3. [Table 2](#) Considering Delirium Assessed Only Through the mRASS or 4AT Scales
4. [Table 3](#) Association Between Delirium and Mortality After Adjusting for Frailty

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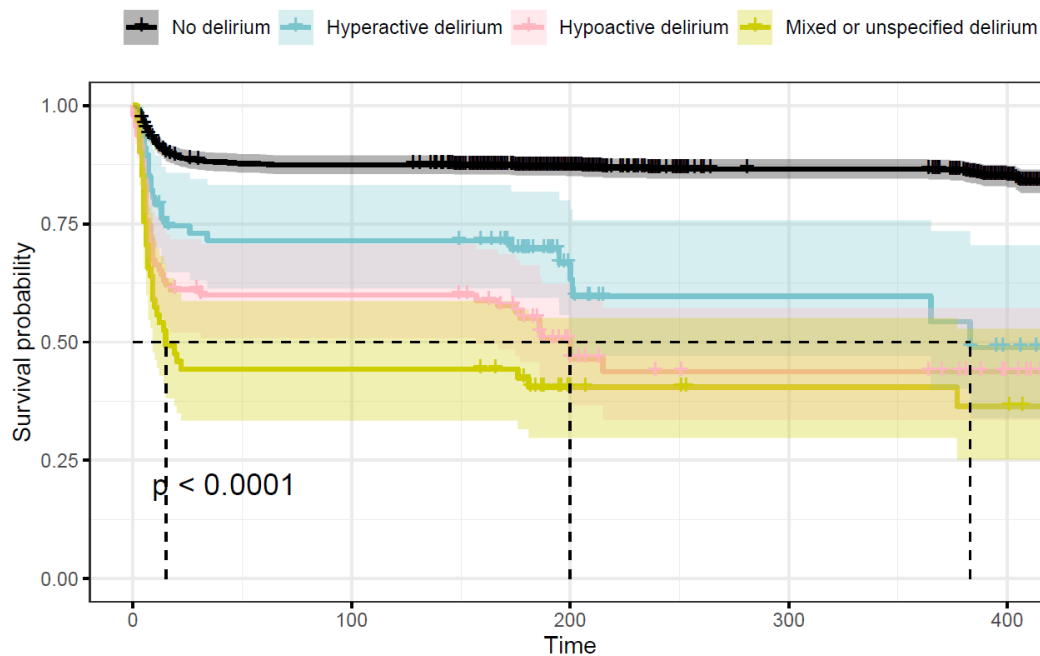
SUPPLEMENTARY MATERIAL

Supplementary Table 1. Prevalence of chronic diseases in the total sample and by delirium

	Overall	Delirium		p-value ^a	Delirium type			p-value ^b
		No	Yes		Hyperactive	Hypoactive	Mixed or unspecified	
n	1324	1101	223		67	95	61	
Hypertension	696 (52.6)	542 (49.3)	154 (69.1)	<0.001	32 (47.8)	74 (77.9)	48 (78.7)	<0.001
Heart disease	318 (24.1)	229 (20.8)	89 (40.1)	<0.001	17 (25.8)	42 (44.2)	30 (49.2)	0.015
Atrial fibrillation	119 (9.0)	80 (7.3)	39 (17.6)	<0.001	7 (10.6)	19 (20.0)	13 (21.3)	0.203
Peripheral vasculopathy	127 (9.6)	77 (7.0)	50 (22.6)	<0.001	6 (9.1)	28 (29.8)	16 (26.2)	0.006
Heart failure	53 (4.0)	30 (2.7)	23 (10.4)	<0.001	3 (4.5)	12 (12.6)	8 (13.1)	0.18
Stroke	68 (5.1)	43 (3.9)	25 (11.3)	<0.001	3 (4.5)	12 (12.6)	10 (16.4)	0.092
Diabetes mellitus	281 (21.2)	216 (19.6)	65 (29.3)	0.002	17 (25.8)	26 (27.4)	22 (36.1)	0.383
Depression	68 (5.2)	45 (4.1)	23 (10.6)	<0.001	2 (3.3)	14 (14.7)	7 (11.7)	0.074
Osteoarthritis	109 (8.3)	79 (7.2)	30 (13.8)	0.002	6 (9.5)	13 (14.0)	11 (18.0)	0.389
Osteoporosis	65 (5.0)	45 (4.1)	20 (9.2)	0.003	4 (6.3)	12 (12.9)	4 (6.6)	0.266
COPD	142 (10.7)	111 (10.1)	31 (14.0)	0.113	11 (16.7)	13 (13.7)	7 (11.5)	0.697
Chronic kidney failure	112 (8.5)	70 (6.4)	42 (19.0)	<0.001	8 (12.1)	21 (22.3)	13 (21.3)	0.232
Liver diseases	71 (5.4)	61 (5.5)	10 (4.5)	0.644	3 (4.5)	5 (5.3)	2 (3.3)	0.843
Thyroid disorders	111 (8.4)	91 (8.3)	20 (9.0)	0.817	6 (9.1)	9 (9.5)	5 (8.2)	0.963
Hearing deficits	82 (6.2)	52 (4.7)	30 (13.6)	<0.001	6 (9.2)	19 (20.2)	5 (8.2)	0.048
Vision deficits	68 (5.2)	48 (4.4)	20 (9.3)	0.006	4 (6.2)	11 (11.7)	5 (8.8)	0.489
Parkinson disease	26 (2.0)	14 (1.3)	12 (5.4)	<0.001	3 (4.5)	5 (5.3)	4 (6.6)	0.879
Peptic ulcer	25 (1.9)	16 (1.5)	9 (4.1)	0.02	5 (7.7)	2 (2.1)	2 (3.3)	0.2
Rheumatologic disease	54 (4.1)	48 (4.4)	6 (2.7)	0.34	5 (7.6)	1 (1.1)	0 (0.0)	0.013
Anemia	70 (5.3)	44 (4.0)	26 (11.7)	<0.001	4 (6.1)	13 (13.7)	9 (14.8)	0.23
Cancer	172 (13.0)	137 (12.4)	35 (15.8)	0.217	9 (13.6)	13 (13.7)	13 (21.3)	0.378

^ap-values for the comparison between patients with vs. without delirium; ^bp-values for the comparison between patients with different delirium type. *Abbreviations:* COPD, chronic obstructive pulmonary disease.

Supplementary Figure 1. Kaplan-Meier survival curves for participants by type of delirium



Notes. Time is expressed in days from hospital admission.

Supplementary Table 2. Considering delirium assessed only through the mRASS or 4AT scales

	Hazard Ratios (95% Confidence Interval) ^a	
	p-values	
	In-hospital mortality (n=922, events=136)	Post-discharge mortality (n=917, events=169)
Delirium (yes vs no)	1.86 (1.25-2.76)	1.88 (1.33-2.65)
	p=0.002	p<0.001

^aModel is adjusted for: age (linear and quadratic terms), sex, dementia, number of chronic diseases, pre-hospitalization mobility level, Covid-19 wave, and need for oxygen therapy and C-Reactive Protein at ward admission.

Supplementary Table 3. Association between delirium and mortality after adjusting for frailty

	Hazard Ratios (95% Confidence Interval) ^a	
	p-values	
	In-hospital mortality (n=1324, events=228)	Post-discharge mortality (n=1319, events=271)
Delirium (yes vs no)	1.90 (1.42-2.54) p<0.001	2.02 (1.55-2.65) p<0.001
Delirium type		
No	[ref]	[ref]
Hyperactive	1.87 (1.14-3.06) p=0.01	2.09 (1.35-3.23) p<0.001
Hypoactive	1.79 (1.22-2.63) p=0.003	1.92 (1.36-2.72) p<0.001
Mixed or unspecified	2.04 (1.38-3.02) p<0.001	2.12 (1.46-3.07) p<0.001

^aModel adjusted for: age (both linear and quadratic terms), sex, COVID-19 wave, and frailty index.