

OCCURRENCE OF ADVERSE EVENTS AND FACTORS RELATED TO PROGNOSIS IN A COHORT OF PATIENTS HOSPITALIZED WITH COVID-19 AT UNIVERSITY HOSPITAL - UNICAMP, BRAZIL¹

Category: Z5. COVID: Complications, co-infections, and clinical outcomes

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Summary: In Brazil, 34.284.864 cases of COVID-19 were reported and 682.549 deaths up to August 23 of 2022. Hospital infections (HI) and other hospital adverse events may increase the risk of death in patients with COVID-19. The study included 650 adult hospitalized patients with diagnosis of COVID-19 who were followed up during the entire period of hospitalization at University Hospital of UNICAMP from March/20 to March/21. Their characteristics at admission are in Table 1.

The occurrence of adverse events during hospitalization are shown in table 2 and were associated with evolution to death. Evolution to death occurred in 139 (21.38%) patients.

Comparing patients who died with those who survived, we observed a statistically significant difference in the occurrence of pulmonary thromboembolic and vascular events (23% vs 9.8%), ICU admission (84.9% vs 39.6%) and the occurrence of following HI: bloodstream infections (30.2% vs 8.6%), mechanical ventilator-associated pneumonia (VAP) (52.5% vs 12.3%) and urinary tract infection (27.3% vs 7.2%).

Gram negative bacteria were the most isolated (62.1%), especially *K. pneumoniae* (49% resistant to 3rd generation cephalosporins and 39.2% resistant to carbapenems), *A. baumannii* and *P. aeruginosa* (56.5% and 27.7%, respectively resistant to carbapenems, followed by Gram-positive bacteria (27%: *S. aureus* 1.3%, *S. non-aureus* 16.7% and *Enterococcus* 9%) and fungi (13.8%: *Candida spp* 16.7%; *Aspergillus* 2.6%). Logistic regression analysis identified variables independently associated with death in table 3.

Among patients hospitalized with Covid-19, ICU admission, development of PTE and HI were frequent, reflecting the patient's severity and the complexity of care. Factors that independently increased the risk of death were the use of vasoactive drugs, renal failure and VAP.

Table 1: Patients characteristics at admission

	Number (%)		Number (%)
Number of patients	650 (100%)	Saturation at admission	
Age		>93%	181 (27.85%)
Mean (Standard Deviation)	57.96 (14.62)	88 a 92%	248 (38.15%)
Median	58	< 88%	177 (27.23%)
Minimum-Maximum	19 - 97	Without data	44 (6.77%)
Gender		D-Dimer value at admission	
Male	384 (59.1%)	Patients with altered values	515 (79.23%)
Female	266 (40.9%)	Mean (Standard Deviation) (ng/ml)	955 (11166.97)
Comorbidity		Minimum-Maximum (ng/ml)	14.69 - 80000
None	79 (12.15%)	Computed tomography (CT) evaluation	
Arterial hypertension	334 (51.38%)	Patients who underwent CT	193 (29.69%)
<i>Diabetes mellitus type 2</i>	220 (33.85%)	Typical Findings*	187 (28.77%)
Obesity	204 (31.38%)	Undetermined findings*	4 (0.62%)
Chronic kidney failure	54 (8.31%)	Atypical findings*	2 (0.31%)

*Classification determined by the consensus of the North American Society of Radiology (SIMPSON S, 2020)³

Table 2: occurrence of adverse events during hospitalization

	Number
Blood stream infection	86 (13.23%)
Ventilator-associated pneumonia	136 (20.92%)
Urinary tract infection	75 (11.54%)
Vascular thromboembolic event	82 (12.62%)
Renal insufficiency	220 (33.85%)

Table 3: variables associated to death in Logistic Regression

Variables	B	Significance	OR	CI95%
Age	0.35	<0.0001	1.03	1.02 - 1.05
Acute renal failure	2.05	<0.0001	7.76	4.54 - 13.26
Use of vasoactive drugs	1.09	<0.0001	2.93	1.79 - 4.82
Ventilator-associated pneumonia	0.84	0.005	2.21	1.23 - 3.96
ICU admission	1.11	0.001	3.06	1.60 - 5.87