

Supplementary materials

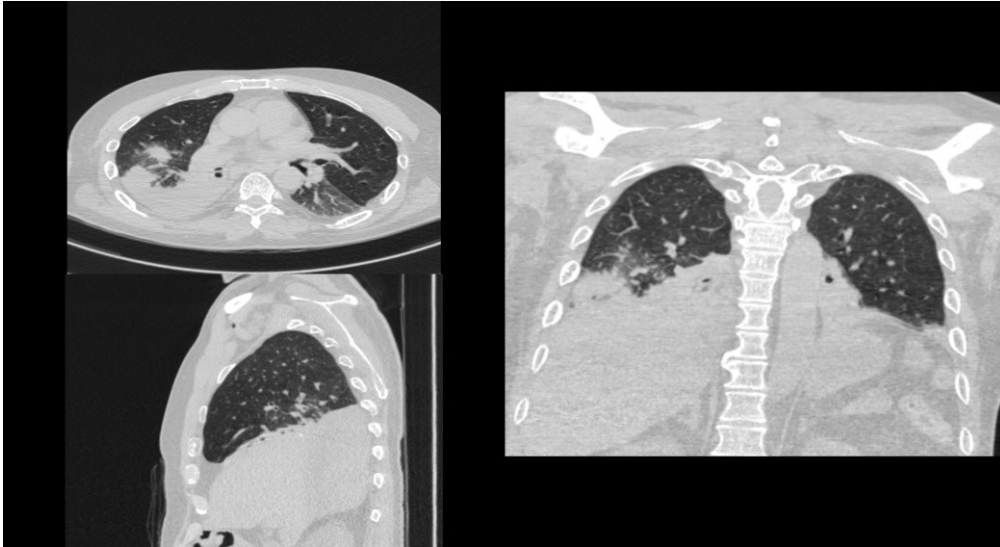


Fig. S1. Multiplanar reconstruction of the thoracic CT scan performed in the first day in the ICU

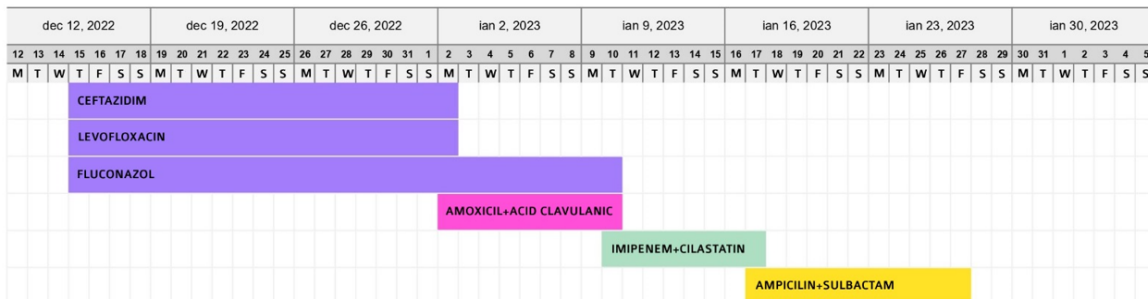


Fig. S2. Antibiotic treatment regimen followed in ICU.

Table S1. The evolution of laboratory parameters throughout hospitalization and the parameters set

Parameter	15.12.2022	21.12.2022	04.01.2023	24.01.2023	Normal values
White blood cells (WBC)	18.1	10.4	8.08	9,71	4-10x10 ³ / µL
Hemoglobin	14.5	12.5	11.10	10,9	12-16g/dL
Hematocrit	43.8	37	33.90	35	40-54%
Platelets	200	144	321	224	150-400 x10 ³ /µL
Neutrophils	11.29	8.10	3.76	3,57	1.5-7x10 ³ /µL
Lymphocytes	1.05	1.15	2.3	1,47	0.8-4x10 ³ /µL
Monocytes	0.65	0.8	0.60	0,43	0.12-1.2 x10 ³ /µL
Basophils	0.01	0.02	0.09	0,06	0-0.10 x10 ³ /µL
Blood glucose	50	142	100	212	70-105 mg/dL
Serum creatinine	0.69	0.5	0.38	0,46	0.6-1.2 mg/dL
Total proteins	52.2	52.2	54.7	64	60-80 g/L
International Normalized Ratio (INR)	1,25	1,15	1.27	1,21	0,8-1.2
Procalcitonin	2	2	2-10	<0,5	negative<0.5 positive>0,5 µg/L
C-reactive protein	4,95	15	2.85	2,62	0.0-0.5mg/dL
Arterial blood gases	pH: 7.088; PO2: 160 mmHg, PCO2: 145 mmHg, NHCO3: 45 mmHg; Base excess (EB): 15 mmol/l; PO2/FiO2: 280 FiO2: 0.6	MV-SIMV-TS: Ph: 7.44; PO2: 181 mmHg, PCO2:44 mmHg, HCO3: 30 mmHg; EB: 15 mmol/l; PO2/FiO2: 280 FiO2: 0.45	Ph: 7.47; PO2: 112 mmHg, PCO2: 32 mmHg, HCO3: 22 mmHg; EB: -2 mmol/l; PO2/FiO2: 340 FiO2: 0.4	MV- BiPAP - TS Ph: 7.45; PO2: 116 mmHg, PCO2: 36 mmHg, HCO3: 26 mmHg; EB: 3 mmol/l; PO2/FiO2: 310 FiO2: 0.4	Ph:7.35-7.45 PCO2: 35-45 mmHg PaO2: 80-100 mmHg HCO3: 22-26 mmHg EB: +/-2 mmol/L
Bacteriological testing from bronchial aspirate obtained through bronchoscopy	Beta-hemolytic <i>Streptococcus</i> , Group G; <i>Achromobacter dentrificans</i> ; <i>Candida albicans</i>	Negative	<i>Acinetobacter baumannii</i> -sensitive	<i>Acinetobacter baumannii</i> -resistant; Sensitive only to Colistin	Negative

Table S2. Parameters set for home ventilation and arterial blood gas values.

	27.01.2023	13.03.2023	04.07.2023	23.08.2023	20.10.2023	13.06.2024
Ph	7,45	7,42	7,43	7,44	7.38	7.42
PCO2 mmHg	37	41	45	38	48	44
PO2 mmHg	76	122	132	138	102	98
HCO3 mmol/L	26	28	28	25	34	30
BE mmol/L	2,8	3,2	3,2	2,2	8,2	6,2
Expiratory positive airway pressure (EPAP)	5	5	6	6	6	6
Inspiratory positive airway pressure (IPAP)	14	18	18	18	21	21
TV (mL)	450	500	500	500	500	500
MV L/min	7,2	7	7	7		
The change in pressure from the highest pressure to the lowest pressure (Psupp)	9	13	13	13	13	13
FiO2	0,3	0,4	0,3	0,3	0,4	0,3
Inspiratory time/expiratory time (Ti:Te)	1:2,5	1:2	1:2	1:2	1:2	1:2
Respiratory frequency	16	14	14	14	14	12
Daily ventilation	24 hours	24 hours	24 hours	24 hours	24 hours	24 hours

Table S3. Tests performed regularly to monitor the patient's condition.

Parameter	13.03.2023	04.07.2023	23.08.2023	20.10.2023	13.06.2024	Normal values
WBC	10,2	7.88	8,22	16.03	10.44	4-10x10 ³ / µL
Hemoglobin	10.40	12.6	12,6	11.10	12.60	12-16g/dL
Hematocrit	33.4	39	37,4	33.10	38.70	40-54%
Platelets	245	203	215	245	243	150-400 x10 ³ /µL
Neutrophils	8.36	4.87	4,22	14	6.46	1.5-7x10 ³ /µL
Lymphocytes	1.17	1.6	1,3	0.95	2,36	0.8-4x10 ³ /µL
Monocytes	0.50	0.46	0,40	0.90	0.48	0.12-1.2 x10 ³ /µL
Basophils	0.05	0.08	0,06	0.03	0.06	0-0.10 x10 ³ /µL
Blood glucose	131	115	128	129	96	70-105 mg/dL
Serum creatinine	0.51	0.52	0,63	0,	0.46	0.6-1.2 mg/dL
Total proteins	6.4	6.8	6,5	6.4	6.6	60-80 g/L
INR	1.1	1.12	1,20	1,1	1.14	0,8-1.2
Procalcitonin	<0.5	<0.5	<0.5	<0,5	<0,5	negative<0.5 positive>0,5 µg/L
PCR	24	31	26	5,65	0.91	0.0-0.5mg/dL
Bacteriological testing from bronchial aspirate obtained through bronchoscopy	<i>Pseudomonas aeruginosa</i> - sensitive to Colistin	<i>Pseudomonas aeruginosa</i> - sensitive to Colistin; <i>Klebsiella pneumonia</i> - MDR	<i>Acinetobacter</i> sensitive only to Colistin	Negative	<i>Acinetobacter baumani</i> sensitive only to Colistin	Negative
	Ciprofloxacin, Meropenem; <i>Klebsiella pneumoniae</i> – MDR	Sensitive to Tigecycline, Colistin			<i>Pseudomonas aeruginosa</i> CR sensitive only to Colistin	
Urinalysis; Bacterial identification		<i>Escherichia coli</i> ESBL- Sensitive to Amikacin		<i>Escherichia coli</i> ESBL	Negative	