



ANAKINRA IN SEVERE COVID-19 PNEUMONIA: RETROSPECTIVE STUDY



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BACKGROUND AND IMPORTANCE

Anakinra is a recombinant IL-1 receptor antagonist and might help to neutralise the acute respiratory distress syndrome (ARDS) SARS-CoV-2-related hyperinflammatory state.

AIM AND OBJECTIVES

To evaluate the use of anakinra in severe COVID-19 pneumonia previously treated with tocilizumab

MATERIALS AND METHODS

Retrospective study in a general university hospital with 503 beds. Patients or relatives gave oral consent for the use of anakinra. Posology was 100 mg/12 hours day 1 and 100 mg/24 hours days 2-5, subcutaneously. All received thromboembolic prophylaxis and were previously treated with hydroxychloroquine, azithromycin, corticosteroids and tocilizumab. Demographic variables, comorbidities, onset of symptoms and biochemical parameters (leukocytes, neutrophils, lymphocytes, platelets, hemoglobin, transaminases, LDH, creatinine, CRP, procalcitonin, CK, D-dimer, ferritin) at baseline and at discharge or death were recorded. The main outcome was mortality.

RESULTS

17 patients were treated from April 4 to 26. Median age was 69 years (IQR 12), 11 (65%) men. 15 (88%) with mechanical ventilation (MV). The main comorbidities were hypertension (8, 47%) and dyslipidemia (11, 65%). 7 (41%) had 2 or more comorbidities. 11 patients (65%) were admitted after 7 or more days with symptoms

Previous treatments	n	%
Hydroxychloroquine, azithromycin, corticosteroids and tocilizumab	17	100%
Lopinavir/ritonavir	12	71%
Interferon beta-1-b	2	12%

	Median	IQR
Days with symptoms (at hospital admission)	7,5	5,75
Days of admission	36	35
Days of ICU admission	26,5	35
Days from the start of symptoms to treatment with anakinra	18,5	6
Days from start of anakinra to discharge/death	23	30,5

Biochemical parameters	Basal values	Discharge/death values
Lymphocyte	0,6x10 ⁹ /L (IQR 0,4)	1,1x10 ⁹ /L (IQR 0,8)
AST	38 U/L (IQR 28,5)	33 U/L (IQR 20,5)
ALT	59 U/L (IQR 99)	52 U/L (IQR 38)
CRP	1,6 mg/dL (IQR 9,6)	2,1 mg/dL (IQR 6,6)
LDH	735 U/L (IQR 368)	638 U/L (IQR 408)
D-dimer	1.350 ng/mL (IQR 1.734)	727 ng/mL (IQR 1.305)
Ferritin	928 mcg/L (IQR 1.736)	743 mcg/L (IQR 1.848)

10 patients (59%) died. 4 patients stopped anakinra treatment, 3 due to elevated transaminases and 1 due to neutropenia.

CONCLUSION AND RELEVANCE

Mortality has been high, but our population were critical patients with MV, ARDS and with poor evolution despite having received other immunomodulatory treatments. Anakinra, as tocilizumab, must be used in earlier stages of the disease to reduce the inflammatory response, delaying treatment does not provide benefits to the cure of patients.

REFERENCES

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