

Category : **Infections + antimicrobials**

A72 - Sars-cov-2 associated aspergillus and hsv opportunistic infections.

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Introduction:

SARS-CoV-2 associated hyperinflammatory syndrome (HIS) is a major cause of ARDS and death. The use of corticosteroids (CS) has shown good effect on both attenuation of HIS and outcome. However, CS use has also been associated with increasing incidence of opportunistic infections in SARS-CoV-2 infected patients. We investigated whether opportunistic infections with *Aspergillus* species (Asp) or Herpes Simplex Virus (HSV) were more common after implementation of the RECOVERY trial results.

Methods:

We retrospectively analyzed all patients that were admitted to our ICU for severe COVID-19 induced respiratory failure from 03/20 until 01/21. We identified a total of 186 patients that were dichotomized according to dexamethasone administration upon admission (DEX vs NO-DEX). Patient baseline characteristics, mode of ventilation and survival rates are shown in figure 1.

Results:

Patient baseline characteristics did not differ between both groups (Wilcoxon $p > .05$). In the NO-DEX group, 35 patients were treated with high dose CS for perceived HIS, while rescue CS were used in 21 DEX-group patients. A total of 42 patients received one or more broncho-alveolar lavages (BAL): 18 DEX patients and 24 NO-DEX patients. In the DEX group, Asp antigen was detected in 8 BAL (44%), while HSV DNA was found in 11 BAL (61%). In the NO-DEX group, 10 BAL (42%) were positive for Asp antigen and HSV DNA was detected in 19 BAL (79%). Approximately 70% of positive BAL results in the NO-DEX group originated from patients that had received CS.

Conclusion:

We identified a total of 18 (43%) *Aspergillus* positive and 30 (71%) HSV DNA positive BAL results. Despite the retrospective analysis inherent bias, our study suggests a strong correlation between the use of CS and Asp and HSV opportunistic infection in SARS-CoV-2 critical ill patients.

Image :

Figure 1	NO DEX	DEX
n of patients		
	90 patients	96 patients
patient baseline characteristics		
<i>median age, years (IQR)</i>	70 (60-76)	70 (63-77)
<i>median BMI (IQR)</i>	29 (27-33)	29 (27-33)
<i>median CCI (IQR)</i>	4 (2,5-6)	4 (2-6)
<i>median frailty score (IQR)</i>	3 (2-3)	3 (2-4)
<i>median APACHE 4 predicted mortality (IQR)</i>	29,8 (18,8-41)	24 (17-37)
invasive mechanical ventilation (IMV)		
<i>n of patients</i>	38	21
<i>median duration (IQR)</i>	12,8 days (6,2-23,9)	11 days (8-22)
<i>HFNC prior to intubation, n of patients</i>	29 patients	20 patients
<i>HFNC prior to intubation, median duration</i>	4,2 days	5,3 days
<i>mortality</i>	11 patients (29%)	13 patients (62%)
<i>'rescue' steroid use</i>	23 patients	13 patients
HFNC only		
<i>number of patients</i>	52	75
<i>duration of HFNC therapy</i>	4,2 days (1,8-6,1)	5 days (3-7)
<i>mortality in HFNC only therapy</i>	10 patients (19%)	21 patients (28%)
<i>'rescue' steroid use</i>	12 patients	8 patients
total mortality		
	21 patients (23%)	34 patients (35%)

Patient baseline characteristics, mode of ventilation and survival rates