PB2268 IMPACT OF HEMATOLOGICAL DISORDERS ON MORTALITY AND SERIOUS OUTCOMES IN SARS-COV-2 INFECTION: A MULTICENTER COHORT STUDY

**Topic:** 30. Infections in hematology (incl. supportive care/therapy)

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**Background:**

Presence of hematologic diseases has been associated with worse outcomes in patients with SARS-CoV2 virus infection, including higher mortality rates than patients without these comorbidities. This cohort study included patients with and without prevalent hematologic diseases.

**Aims:** To determine the impact of hematologic disorders on 30-day mortality and other severe outcomes in patients with SARS-COV-2 infection.

**Methods:**

A prospective cohort study was conducted in 6 COVID-19 reference centers in Mexico between March 1, 2020 and January 31, 2021. The main objective of our study was to determine the impact of hematologic disease status on 30-day mortality and on a composite outcome of severe complications (AKI, ARDS, and liver failure). Using data from patients treated in the largest center, those with COVID-19 and hematologic diseases were compared to non-hematologic COVID-19 controls. Pairing was performed according to COVID-19 treatment, age, sex, BMI, and CDC-defined variables of high mortality risk. As a secondary objective, a multi-center analysis was performed to determine risk factors for 30-day mortality in hematologic disease patients, determined by univariate and multivariate analysis.

**Results:**

For the main objective, 59 patients were recruited (matched 1:1). In the 30-day mortality analysis, we found no differences between the two groups: HR 1.08 (95% CI 0.52-2.24) \( p = 0.833 \), OR 1.08 (95% CI 0.46-2.48) \( p = 0.872 \). Regarding the composite outcome of severe complications, we found a HR 1.03, (95% CI 0.59-1.80) \( p = 0.896 \). There was no difference in the 30-days survival between the two groups \( p = 0.832 \) (Figure 1).

For our secondary objective, 158 patients were recruited: 46.6% women, median age 45 years, BMI 26.3 (IQR 23.2-29.7), 19.0% diabetes, 14.6% hypertension and 18% smokers, and 83.5% with hematologic malignancies. Supplementary oxygen was used in 81.6%, in hospital-treatment was necessary in 84.1%, and 41.4% required ICU admission. 30-day mortality was 42.4%. Complications during hospitalization included respiratory failure in 84.5%, of which only 48% received VMI; reasons for not receiving VMI included a non-intubation order issued by the patient or family members and lack of infrastructure. Regarding COVID-19 treatment, 30% received dexamethasone 6 mg/day and 30% received thromboprophylaxis.
In the univariate analysis, the following were predictive factors of mortality: all types of malignancy HR 2.64 (95% CI 1.06-6.59) p=0.030, lymphoid malignancy HR 2.52 (95% CI 1.06-6.95) p=0.035, last treatment <3 months HR 2.3 (95% CI 1.15-4.61) p=0.018, and palliative treatment HR 3.01 (95% CI 1.35-7.72) p=0.007. Complete response was a protective factor HR 0.229 (95% CI 0.093–0.53) p=0.001. The use of dexamethasone was not a protective factor in this population HR 1.32 (95% CI 0.80-2.18) p=0.273. In the multivariate analysis, palliative status HR 4.8 (95% CI 1.07-22.18) p=0.040 and complete response HR 0.22 (95% CI 0.062-0.815) p=0.023 were risk and protective factors, respectively.

Summary/Conclusion:

After careful pairing according to clinical characteristics, including CDC variables predictive of high mortality risk, we observed survival didn’t differ between groups, concluding hematologic disease did not impact 30-day mortality in COVID-19 patients. This is striking, since previous reports have described a higher mortality risk among patients with hematologic diseases, although the pairing process hadn’t been as thorough as ours. Also of note, use of dexamethasone was not associated with lower 30-day mortality in patients with hematologic diseases.