384. Invasive aspergillosis in COVID-19 patients in an intensive care unit in Mexico City
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ARMII study group

Session: P-12. COVID-19 Complications, Co-infections, and Clinical Outcomes

Background: An elevated incidence of invasive pulmonary aspergillosis (IPA) in patients with COVID-19 without traditional risk factors for IPA has been recently reported around the world. This co-infection has been described in patients requiring treatment in an intensive care unit. The risk factors for its development are still unclear.

Methods: We conducted a nested case-control study using the COVID-19 registry of the ARMIII study group, based in the Centro Medico ABC, a private hospital in Mexico City. We included all patients that required admission to the intensive care unit (ICU) from March 12 to June 15, 2020, and excluded patients without galactomannan measurements or bronchial secretions cultures. We used the modified definition of IPA proposed by Schmohr et al for IPA in influenza patients. The control group was formed by patients with ruled-out IPA (negative galactomannan and secretion cultures). We compared both groups to identify risk factors for IPA using the chi-squared test or the Mann-Whitney U test as applicable.

Results: Out of a total 239 patients, 54 met the inclusion criteria. We identified 13 patients with IPA (24.07%) that met the definition of IPA (2 with positive cultures and 11 with positive galactomannan) and 41 without IPA. Only three patients with IPA had important comorbidities (COPD, chronic kidney disease, and HIV). Patients with IPA tended to have a higher median age (64.6 vs 53.9, p=0.075) and a higher serum glucose at their arrival (145 vs 119, p=0.028). All patients with IPA presented to the hospital with ARDS (100% vs 72.5%, p=0.034), but ultimately did not have a higher requirement for mechanical ventilation (100% vs 82.93%, p=0.110). There were no significant statistical differences in use of tocilizumab and glucocorticoids, mortality (23.07% vs 17.50%, p=0.563) or length of stay.

Conclusion: It has been previously described that patients with acute respiratory disease syndrome triggered by viral infection, like the influenza virus, are prone to invasive aspergillosis even in the absence of underlying immunodeficiency. The use of antifungals to prevent aspergillosis in COVID-19 patients should be assessed because of the gravity presented in the patients with this co-infection.

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385. Kawasaki’s Disease and Sars-Cov-2: an Unexpected Pediatric Global Crisis?
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Session: P-12. COVID-19 Complications, Co-infections, and Clinical Outcomes

Background: Infection by SARS-CoV-2 can lead to dyspnea, edema, deposition of intra-alveolar fibrin, thrombosis and hemorrhages. During the COVID-19 outbreak, several questions were raised about the risks for the pediatric population. Pediatric patients appeared to be relatively safe, with only minor symptoms and a quick recovery. However, there have been reports of a relationship between COVID 19 and Kawasaki-like inflammatory disease in this population. Kawasaki’s disease (KD) is a rheumatological vasculitis prevalent in childhood characterized mainly by diffuse inflammation of the arteries associated with skin rash, changes in the mucosa and its main complication is coronary aneurysms.

Methods: A systematic literature review was performed in the PubMED database using the keywords “Kawasaki disease”, “COVID-19” and “Pediatrics”. The selected filters were “Case reports”, “Multicenter study”, “Clinical Study”, “Observational study”, “Human” and “English”. A total of 18 articles were selected.

Results: There seems to be a convergence between the literature published so far, pointing to a greater propensity for pediatric patients infected with Sars-Cov-2 to develop KD. The number of patients with KD symptoms seen at a specific center increased from 2 to 17 in 11 days (MOREIRA, 2020). In a sample space of 21 patients diagnosed with KD, 91% had previous contact with SARS-CoV-2 (TOUBIANA, 2020) whereas other studies point to a 30-fold increase in the prevalence of KD since the beginning of 2020 (VYERDONI, 2020).

There is already an established relationship between DK and HCoV-NH, describing the stringent relationship between both condition. Therefore, it was suggested that there seems to be a convergence between the literature published so far, pointing to a greater propensity for pediatric patients infected with Sars-Cov-2 to develop KD. The number of patients with KD symptoms seen at a specific center increased from 2 to 17 in 11 days (MOREIRA, 2020). In a sample space of 21 patients diagnosed with KD, 91% had previous contact with SARS-CoV-2 (TOUBIANA, 2020) whereas other studies point to a 30-fold increase in the prevalence of KD since the beginning of 2020 (VYERDONI, 2020).

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Conclusion: Despite the relationship described between pediatric patients infected with COVID-19 being more likely to develop KD, further studies are needed to prove a statistical relationship between both condition.

Disclosures: All Authors: No reported disclosures
Methods: From 3/16/2020 to 5/19/2020, a follow-up was attempted for patients who were discharged alive from Henry Ford Hospital in Detroit and had recovered. Recovery was defined as being alive 30 days post symptom-onset. A telephone survey was conducted 30 days post-index admission and recorded in electronic medical records. Oxygen (O2) requirements, symptoms, readmissions and the need for antibiotics for secondary bacterial infections were evaluated.

Results: 585 patients met inclusion criteria and were contacted by phone; 303 answered their phone (Table 1), but only 266 (45%) completed a full telephone encounter and were included in the final analysis (Table 2). The majority were female (53%), black (80%), and discharged to home (84%). The clinical characteristics of those who completed the survey were as follows: 11% presented with O2 saturation <90%, 16% had underlying lung pathology, and 57% had a BMI above 30. Patients’ average age was 61 ± 14.3 years. At 30 days post-index admission, 49% were still symptomatic. Of the symptomatic patients, 86% had dyspnea on exertion and 15% required O2 supplementation. 18% of patients were readmitted within 30 days, and 9% developed a secondary infection prior to the phone encounter. No statistically significant differences in demographics or comorbidities were found between symptomatic and asymptomatic cohorts (Tables 1, 2).

Table 1. Results of Phone Encounters Performed on 383 Patients at 30 Days from Index Admission

| Symptom/Condition | Number of Patients |
|-------------------|-------------------|
| Survival/answered phone call | 303 |
| Completed entire phone encounter | 266 |
| Disposition | |
| Unknown | 10 |
| Home | 494 |
| Subacute Rehab/Inpatient Rehab | 35 |
| Long Term Acute Care Hospital | 9 |
| Nursing Home | 34 |
| Other | 3 |
| Required readmission with 30 days | 75 |
| Required outpatient antibiotics for secondary infection | 28 |

Table 2. Comparison of Symptomatic Versus Asymptomatic Patients at 30 Days from Index Admission

| Demographics | All Patients (N = 266) | Asymptomatic (N=135) | Symptomatic (N=131) | P value |
|---------------|-----------------------|----------------------|---------------------|--------|
| Age (Mean, SD) | 64.7 ± 18.6 | 59.6 ± 18.6 | 72.2 ± 18.6 | 0.041 |
| Gender (N:%) | | | | | |
| Females | 152 (57) | 78 (58) | 74 (56) | 0.042 |
| Males | 114 (43) | 57 (42) | 57 (44) | 0.12 |
| Race (N:%) | | | | | |
| White | 154 (58) | 86 (64) | 68 (52) | 0.002 |
| Black | 214 (80) | 108 (80) | 106 (80) | 0.23 |
| Other | 16 (6) | 10 (7.5) | 6 (4.5) | 0.73 |
| Declined | 3 (1.5) | 2 (1.5) | 1 (0.7) | 0.99 |
| Unknown | 15 (5.5) | 8 (6) | 7 (5.3) | 0.12 |

| Comorbidities (%) | All Patients (N = 266) | Asymptomatic (N=135) | Symptomatic (N=131) | P value |
|-------------------|-----------------------|----------------------|---------------------|--------|
| Hypertension (%) | 208 (78.8) | 104 (77) | 104 (78) | 0.642 |
| DM | 128 (48.3) | 63 (47) | 65 (49) | 0.630 |
| CKD | 69 (26) | 29 (21) | 40 (31) | 0.092 |
| BMI >30 | 151 (57) | 78 (58) | 73 (56) | 0.738 |
| HIV | 4.1% | 2.1% | 2.1% | 1.000 |
| Autoimmune | 0 | 0 | 0 | 1.000 |
| Transplant | 1.2% | 0.7% | 0.5% | 0.591 |
| Cancer | 2.3% | 1.2% | 1.1% | 0.887 |
| COPD/ILD | 42 (16) | 22 (16) | 20 (15) | 0.818 |
| CAD | 43 (16) | 23 (18) | 20 (15) | 0.544 |
| CHF | 47 (18) | 21 (16) | 26 (20) | 0.359 |
| ESRD | 23 (9) | 12 (9) | 11 (8.4) | 0.887 |

| Admission (%) | O2 saturation at presentation | P value |
|---------------|-------------------------------|--------|
| <95 | 155 (58) | 75 (56) | 80 (61) | 0.122 |
| 90-94 | 81 (30) | 39 (29) | 42 (32) | 0.444 |
| ≥85 | 15 (5.5) | 10 (7.5) | 5 (3.8) | 0.23 |

Conclusion: In our study, almost half of the discharged patients remained symptomatic after 30 days with a substantial proportion experiencing pulmonary symptoms. A better understanding of the long-term pulmonary sequelae following COVID-19 infection is needed to design interventions to reduce post-infectious morbidity.

Disclosures: Indira Braj, MD, Gilead (Speaker’s Bureau); Jansen (Speaker’s Bureau); ViiV (Speaker’s Bureau)

387. Markers for Mortality in COVID-19 Patients with Atrial Fibrillation or Flutter

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Session: P-12. COVID-19 Complications, Co-infections, and Clinical Outcomes

Background: Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2) infection can lead to many different cardiovascular complications, we were interested in studying prognostic markers in patients with atrial fibrillation/flutter (A. Fibr/Flutter).

Methods: A retrospective study of patients with confirmed COVID-19 and either with existing or new onset A. Fibr/Flutter who were admitted to our hospital between March 15 and May 20, 2020. Demographic, outcome and laboratory data were extracted from the electronic medical record and compared between survivors and non-survivors. Univariate and multivariate logistic regression were employed to identify the prognostic markers associated with mortality in patients with A. Fibr/Flutter.

Results: The total number of confirmed COVID-19 patients during the study period was 350; 37 of them had existing or new onset A. Fibr/Flutter. Twenty-one cases (57%) expired, and 16 (43%) were discharged alive. The median age was 72 years old, ranged from 19 to 100 years old. Comorbidities were present in 33 (89%) patients, with hypertension (82%) being the most common, followed by diabetes (46%) and coronary artery disease (30%).

Conclusion: This retrospective cohort study of hospitalized patients with COVID-19 demonstrated an association increase in NLR as risk factors for death in COVID-19 patients with A. Fibr/Flutter. A high NLR has been associated with increased incidence, severity and risk for stroke in atrial fibrillation patients but to our knowledge, we are first to demonstrate the utilization in mortality predictions in COVID-19 patients with A. Fibr/Flutter.

Disclosures: Jihad Slim, MD, Abbvie (Speaker’s Bureau); Gilead (Speaker’s Bureau); Jansen (Speaker’s Bureau); Merck (Speaker’s Bureau); ViiV (Speaker’s Bureau)

388. Multidrug Resistant Gram Negative Organisms Prevalence in Hospitalized Patients in an Italian Tertiary Level Hospital During COVID-19 Pandemia: First Detection is More Frequent in Clinical Samples than in Surveillance Rectal Swabs with Respect to the Previous 14-Month Period

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Session: P-12. COVID-19 Complications, Co-infections, and Clinical Outcomes

Background: In Italy the pandemic of COVID-19 infection has placed an enormous burden on health authorities: contact precautions are required to avoid viral transmission and people should be subjected to standard infection control procedures. This is crucial in a country experiencing a high number of confirmed cases of COVID-19 infection in Europe and where multidrug-resistant Gram-negative bacteria (MDR-GN) are endemic. The aim of this study was to compare the prevalence of MDR-GN using surveillance rectal swabs (SRS) and in clinical samples (CS) in the period March 1-30, 2020-2021 April, 2020 with respect to the previous 2 month period and to the previous year.

Methods: The first SRS and the first CS with a MDR-GN isolate detected from 01/01/2019 to 24/04/2020 were included. Analysis was made by comparing three different study periods in 2019 and 2020 (Jan-Dec 2019, Jan-Feb 2020, and Mar-Apr 2020), for medical department, surgical department and intensive care department.

Results: Overall, 612 MDR-GN organisms were identified (399 SRS and 213 CS): carbapenemase-producing Klebsiella pneumoniae and Acinetobacter baumannii (CPAB) were the most frequently detected (Figure 1). We observed an increased relative frequency of patients with MDR-GN detected in CS respect to those found in SRS (33.7% vs 44.5% vs 70.6%, p<0.0001: 5/12 CS detected in the last period were isolated from the respiratory tract (Figure 2). Nine patients with COVID-19 pneumonia had MDR-GN. All but two patients had a previous negative SRS performed 4 days before (median value) and the median interval between COVID-19 positivity and MDR-GN

Disclosures: Jihad Slim, MD, Abbvie (Speaker’s Bureau); Gilead (Speaker’s Bureau); Jansen (Speaker’s Bureau); Merck (Speaker’s Bureau); ViiV (Speaker’s Bureau)