Conclusion. Overall, the rate of SIs in patients admitted with COVID-19 is low. These patients had a long length of stay, which may be either a cause of SI or an effect. Further analysis with matched COVID-positive control patients who do not develop SIs is needed to evaluate the risk of development of SIs in relation to presenting respiratory status, COVID-related therapies, and other patient-specific factors.

Disclosures. **Jason C. Gallagher, PharmD, FIDP, FCCP, FIDSA, BCPS**, **Astellas** (Consultant, Speaker's Bureau)**Merck** (Consultant, Grant/Research Support, Speaker's Bureau)**Qpex** (Consultant)**scPharmaceuticals** (Consultant)**Shionogi** (Consultant) **Jason C. Gallagher, PharmD, FIDP, FCCP, FIDSA, BCPS**, Astellas (Individual(s) Involved: Self): Speakers' bureau; Merck (Individual(s) Involved: Self): Consultant, Grant/Research Support; Nabriva: Consultant; Qpex (Individual(s) Involved: Self): Consultant; Shionogi (Individual(s) Involved: Self): Consultant

297. Infectious Complications Associated with Tocilizumab Use in Patients Infected with SARS-CoV-2 at a Mid-Atlantic Hospital Consortium

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Session: P-14. COVID-19 Complications, Co-infections, and Clinical Outcomes

Background. The IL-6 inhibitor Tocilizumab (TOCI) has been associated with infections in 5-8% of patients with Rheumatoid Arthritis. TOCI has now been recommended as a treatment option for select patients with COVID-19; however, the risk of infection in this patient population is yet to be determined.

Methods. We performed a retrospective chart review of patients diagnosed with COVID-19 and admitted to MedStar hospitals within the D.C./Baltimore corridor from 03/01/2020 to 12/31/2020. We identified patients who had positive culture data within 30 days of administration of TOCI-based regimens and analyzed clinical characteristics and outcomes. Univariate analyses (Wilcoxon, T-test, Chi-Square, Fisher's Exact) were used to compare these outcome variables between patients who had post-treatment infections and those who did not.

Results. A total of 220 patients received TOCI-based regimens; 16% (N=36) of patients developed positive cultures within 30 days of treatment. Of the 99 cultures, 50% were gram positive (N=49), 38% were gram negative (N=38), 10% were *Candida spp*. (N=10), and 2% were anaerobic organisms (N=2). Only 9% (8/87) of the gram positive and gram negative organisms were MDROs. Bloodstream infections were the most common and accounted for 58.4% of all infections. Length of stay (LOS) was approximately twice as long in those with post-treatment infections (26 days) compared to those without infections (14 days, $p< 0.001$). Although the mortality rate was higher in patients with infections after TOCI-based treatment compared to patients with no post-treatment infection (47% vs 31% respectively), this did not reach statistical significance (p=0.09). Moreover, there was no significant difference in the infection rate of patients treated with TOCI alone compared to TOCI and Dexamethasone (16.6% vs. 13.3%, p=0.99). No cases of invasive *Aspergillosis* were observed.

Conclusion. Tocilizumab treatment in patients with COVID-19 may predispose patients to an increased risk of infection which is associated with a prolonged LOS and possibly higher mortality. We observed a two-fold increase in infections in COVID-19 patients compared to other patient groups receiving this treatment.

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298. Examining the Relationship Between Excess Weight and In-Hospital Mortality in COVID-19 Patients in Southwest Georgia, U.S.

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Session: P-14. COVID-19 Complications, Co-infections, and Clinical Outcomes

Background. There are multiple mechanisms for the interconnection between obesity and adverse outcomes in COVID-19. Body mass index (BMI) has historically been used to delineate body fatness, but does not include age, which could influence the relationship between body fat and BMI. Ideal body weight (IBW) equations predict a single IBW, which could allow improved recognition of adults with excess weight at increased risk of death from COVID-19. The purpose of our study was to determine whether an association exists between excess weight and in-hospital mortality in COVID-19 patients.

Methods. This was a multicenter, retrospective chart review of hospitalized patients with COVID-19. Patients were separated in two groups based on the difference between actual body weight (ABW) and IBW (ABW/IBW ≤ 120% and ABW/IBW > 120%) to compare rates of in-hospital mortality and length of stay (LOS). A subgroup analysis of patients with ABW/IBW > 120% was conducted to compare in-hospital mortality between patients with ABW/IBW 121-149%, ABW/IBW 150-199%, and ABW/IBW ≥ 200%.

Results. A total of 445 patients were included of which 71% were in the ABW/IBW > 120% group. Patients in the ABW/IBW ≤ 120% group had higher median age (71 [IQR 64-80.5] vs 60 [IQR 50-70] years) compared to those in the ABW/IBW > 120% group. Fewer African Americans and females were in the ABW/IBW ≤ 120% than in the ABW/IBW > 120% group (65% vs 86% and 35% vs 64%, respectively). There was no difference in the rate of in-hospital mortality between patients in the ABW/IBW ≤ 120% and ABW/IBW > 120% group (26% vs 20%, p=0.174). Average LOS was 10.5 days (SD 9.2) for patients in the ABW/IBW ≤ 120% and 9.3 days (SD 9.5) for those in the ABW/IBW > 120% group (p=0.227). Among those in the ABW/IBW > 120% group, in-hospital mortality was 14%, 23%, and 22% in patients with ABW/IBW 121-149%, ABW/IBW 150-199%, and ABW/IBW ≥ 200%, respectively (p=0.192).

Conclusion. In-hospital mortality and LOS were not significantly higher among COVID-19 patients with excess weight, defined by ABW/IBW > 120%, when compared to those with ABW/IBW ≤ 120%. Further research is needed to compare COVID-19 outcomes when BMI and ABW/IBW are used to define excess weight.

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299. D-dimer as an ICU Admission Risk Predictor in COVID-19 Patients, A Prospective Study

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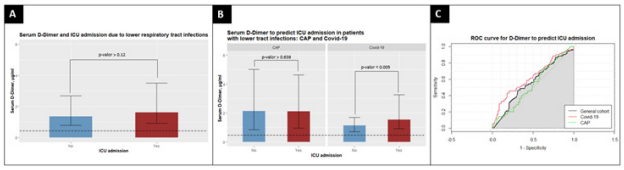
Background. Since the onset of the 2019 coronavirus disease 2019 (COVID-19) pandemic, the rapid increase in community-acquired pneumonia (CAP) cases has led to an excessive rate of intensive care units (ICU) admissions, a rate varying between 5-18%, depending on the country. Consequently, the study of serum biomarkers, such as D-dimer, have been utilized to identify patient with severe disease. However, further data is needed to confirm the association between this serum concentration of D-dimer and the risk of ICU admission. Thus, the aim of this study was to determine if serum concentration of D-dimer predict the risk of ICU admission in patients with COVID-19 and CAP.

Methods. A prospective observational study was carried out at the Clinica Universidad de La Sabana, Colombia. Patients older than 18 years old, hospitalized for COVID-19 or CAP were included. Then, patients were stratified into ICU and non-ICU patients. Plasma samples were collected within the first 24 hours of hospital admission to quantify D-dimer using the PATHFAST system. Concentrations were compared among groups and to assess the biomarker capacity to predict ICU admission risk, ROC curves were used. Finally, a DeLong test was applied to compare their differences.

Results. A total of 240 patients diagnosed with lower respiratory tract infection were included in the study. 88 patients were COVID-19 negative (CAP) and 152 were positive. Plasma concentrations of D-dimer (µg/ml) were significantly higher in COVID-19 patients admitted to the ICU when compared with non-ICU COVID-19 admitted patients (Median [IQR]; 1.54 [0.9-3.25] Vs. 1.13 [0.69-1.69], p=0.005). The area under curve (AUC) ROC to predict ICU admission was 0.62 among COVID-19 patients. DeLong's test p value was 0.24.

Serum D-dimer an ICU admission



Conclusion. D-dimer seems to be a promising tool to identify COVID-19 patients with disease. However, this predicting capacity was not observed in CAP patients. Further studies are needed to identify the mechanisms underling the elevation of D-dimer in COVID-19 patients.

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300. Long COVID in Cancer Patients: Preponderance of Symptoms in Majority of Patients Over Long Time Period

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Session: P-14. COVID-19 Complications, Co-infections, and Clinical Outcomes

Background. An increasing number of observational studies have reported the persistence of symptoms following recovery from acute COVID-19 disease. The long-term consequences of COVID-19 are not fully understood and there is no clear consensus on the definition of post-acute sequelae of SARS-CoV-2 infection (PASC). The reported prevalence of PASC widely varies from 10% up to 87%. The purpose of this study is to assess PASC in cancer patients following acute COVID-19 recovery.

Methods. We assessed cancer patients at MD Anderson Cancer Center who were diagnosed with COVID-19 disease between March 1, 2020 and Sept 1, 2020. Using patient questionnaires and medical chart reviews we followed these patients from March 2020 till May 2021. Patient questionnaires were sent out remotely daily for 14 days after COVID-19 diagnosis then weekly for 3 months, and then monthly thereafter. Chart reviews were conducted for each patient hospital re-admission and emergency department visit. These admissions were classified as either COVID-19 related or non-related. The persistence or emergence of new COVID19-related symptoms were captured at each COVID-19 related admission.

Results. We included 312 cancer patients with a median age of 57 years (18-86). The majority of patients had solid tumors (75%). Of the 312 patients, 188 (60%) reported long COVID-19 symptoms with a median duration of 7 months and up to 14 months after COVID-19 diagnosis. The most common symptoms reported included fatigue (82%), sleep disturbances (78%), myalgias (67%) and gastrointestinal symptoms (61%), followed by headache, altered smell or taste, dyspnea (47%) and cough (46%). A higher number of females reported a persistence of symptoms compared to males (63% vs 37%; p=0.036). Cancer type, neutropenia, lymphocytopenia, and hospital admission during acute COVID-19 disease were comparable in both groups and did not seem to contribute to a higher number of long-COVID-19 patients in our study group.

Conclusion. Long-COVID occurs in 60% of cancer patients and may persist up to 14 months after acute illness. The most common symptoms are fatigue, sleep disturbance, myalgia and gastro-intestinal symptoms.

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301. Detection of Pneumococcal Pneumonia During SARS-CoV-2 Infection

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the Yale IMPACT Research Team

Session: P-14. COVID-19 Complications, Co-infections, and Clinical Outcomes

Background. *Streptococcus pneumoniae* (pneumococcus) is a common colonizer of the upper respiratory tract and can progress to cause invasive and mucosal disease. Additionally, infection with pneumococcus can complicate respiratory viral infections (influenza, respiratory syncytial virus, etc.) by exacerbating the initial disease. Limited data exist describing the potential relationship of SARS-CoV-2 infection with pneumococcus and the role of co-infection in influencing COVID-19 severity.

Methods. Inpatients and healthcare workers testing positive for SARS-CoV-2 during March-August 2020 were tested for pneumococcus through culture-enrichment of saliva followed by RT-qPCR (to identify carriage) and for inpatients only, serotype-specific urine antigen detection (UAD) assays (to identify pneumococcal pneumonia). A multinomial multivariate regression model was used to examine the relationship between pneumococcal detection and COVID-19 severity.

Results. Among the 126 subjects who tested positive for SARS-CoV-2, the median age was 62 years; 54.9% of subjects were male; 88.89% were inpatients; 23.5% had an ICU stay; and 13.5% died. Pneumococcus was detected in 17 subjects (13.5%) by any method, including 5 subjects (4.0%) by RT-qPCR and 12 subjects (13.6%) by UAD. Little to no bacterial growth was observed on 21/235 culture plates. Detection by UAD was associated with both moderate and severe COVID-19 disease while RT-qPCR detection in saliva was not associated with severity. None of the 12 individuals who were UAD-positive died.

Conclusion. Pneumococcal pneumonia (as determined by UAD) continues to occur during the ongoing pandemic and may be associated with more serious COVID-19 outcomes. Detection of pneumococcal carriage may be masked by high levels of antibiotic use. Future studies should better characterize the relationship between pneumococcus and SARS-CoV-2 across all disease severity levels.

Disclosures. **Akiko Iwasaki, PhD**, **4Bio** (Consultant, Advisor or Review Panel member)**Adaptive Biotechnologies** (Consultant, Advisor or Review Panel member)**Blavatnik** (Grant/Research Support)**HHMI** (Grant/Research Support)**Mathers** (Grant/Research Support)**NIH** (Grant/Research Support)**Spring Discovery** (Grant/Research Support)**Spring Discovery** (Consultant, Advisor or Review Panel member)**Vedanta InProTher** (Consultant, Advisor or Review Panel member)**Yale School of Medicine** (Grant/Research Support) **Nathan D. Grubaugh, PhD**, **Tempus Labs** (Consultant) **Ronika Alexander-Parrish, RN, MAEd**, **Pfizer** (Employee, Shareholder) **Adriano Arguedas, MD**, **Pfizer** (Employee) **Bradford D. Gessner, MD, MPH**, **Pfizer Inc.** (Employee) **Daniel Weinberger, PhD**, **Affinivax** (Consultant)**Merck** (Consultant, Grant/Research Support)**Pfizer** (Consultant, Grant/Research Support) **Anne Wyllie, PhD**, **Global Diagnostic Systems** (Consultant)**Pfizer** (Advisor or Review Panel member, Research Grant or Support)**PPS Health** (Consultant)**Tempus Labs, Inc** (Research Grant or Support)

302. Using Antiphospholipid Antibody Presence as an Additional Biomarker to Identify COVID-19 Positive Patients with High Risk for Thrombosis

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Session: P-14. COVID-19 Complications, Co-infections, and Clinical Outcomes

Background. Patients who are hospitalized with Coronavirus 2019 (COVID-19) are known to have increased risk for thrombosis. Several mechanisms have been proposed for increased thrombogenesis, including antiphospholipid antibodies (APLs). We sought to better understand the relationship between a commonly used marker of thrombosis, D-dimer, and antiphospholipid antibodies in relation to thrombosis in COVID-19.

Methods. This was a single-center prospective cohort study. Participants were adults admitted to the hospital with COVID-19 between March and December of 2020. Included patients required a positive COVID-19 nasopharyngeal nucleic acid amplification testing (NAAT), coagulation studies, and regular assessment of D-dimer levels. Patients who were excluded were pregnant adults, use of oral anticoagulants prior to admission, and absence of a positive COVID-19 nasopharyngeal NAAT. We tested 52 patients for antiphospholipid antibodies (APLs), including lupus anticoagulant (LA), anti-beta-2 glycoprotein antibodies (B2GP), and anti-cardiolipin antibodies (aCL). The endpoint for analysis was hospital discharge or development of a confirmed thrombosis.

Results. Twenty-nine of fifty-two patients (55.7%) with COVID-19 had non-negative APLs. Of these patients, twenty-seven (93.1%) had non-negative aCLs, the majority of which were IgM antibodies. There was a total of 7 thrombotic events in our cohort. The sensitivity of D-dimer alone was 85% and the sensitivity of APLs alone was 71%. In patients with an intermediate D-dimer level (i.e., greater than 2 milligrams per liter (mg/L) but less than 5 mg/L), the addition of non-negative APLs increased the sensitivity of D-dimer to 100%. In patients with a high D-dimer (i.e., greater than 5), the combined sensitivity of D-dimer and APLs was 60%. Out of the 7 thrombotic events in our cohort, two patients had negative APLs, however both patients had a D-dimer of greater than 5 mg/L.

Conclusion. The use of APLs can assist in risk-stratifying patients in an intermediate-risk D-dimer group to consider prophylactic anticoagulation if APLs are negative and to consider therapeutic anticoagulation if APLs are non-negative. In the high-risk group (i.e., a D-dimer greater than 5 mg/dL), a therapeutic anticoagulation approach may be more appropriate.

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303. Evaluation of Antimicrobial Utilization and the Incidence of Bacterial Pneumonia Co-infection in Non-ICU COVID-19 Patients at an Urban Academic Medical Center

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Session: P-14. COVID-19 Complications, Co-infections, and Clinical Outcomes

Background. The management of COVID-19 poses diagnostic challenges with regard to concomitant bacterial pneumonia. This may result in unnecessary antibiotic therapy. This analysis described the experience of an urban academic medical center's management of non-ICU patients diagnosed with COVID-19 during the initial months of the pandemic and assessed the rate of concomitant bacterial pneumonia in this population.

Methods. This retrospective analysis evaluated patients 18 years and older admitted to Thomas Jefferson University Hospital (TJUH) between March 1, 2020 and July 31, 2020 who had a positive COVID-19 test, were symptomatic, and received at least one dose of antibiotics. Antibiotic therapy was considered appropriate if there was objective evidence of bacterial pneumonia. Per the TJUH COVID-19 guidelines, objective diagnostic criteria assessed included the following: MRSA nasopharyngeal swab, urine *Legionella pneumophilia* or *Streptococcus pneumoniae* antigen test, respiratory pathogen panel, and sputum culture. If patients did not have evidence of bacterial pneumonia, the threshold for appropriate discontinuation of antibiotics was 48 hours.

Results. 50 patients were included in the final analysis. Upon admission, 7 (14%) patients had clear chest radiographs, and 9 (25%) of the 36 patients with a procalcitonin drawn had a level $\geq$ 0.25, indicating a potential bacterial infection. 15 (30%) patients were known to be COVID-19 positive prior to being administered antibiotics. Additionally, 22 (44%) patients had an infectious diseases service consult during their admission. 25 (50%) patients were continued on antibiotics > 48 hours. The mean duration of antibiotic therapy in the entire population was 3.4 days (82 hours). The