monthly average duration of antibiotic therapy trended downward as the pandemic progressed. The most common empiric antibiotic regimen was ceftriaxone and azithromycin, received by 28% (50%) patients. Only 2% (4%) patients were diagnosed with bacterial pneumonia.

**Conclusion.** In a sample of 50 COVID patients the overall rate of concomitant bacterial pneumonia was 4%. Given this finding, it is vital to remain judicious with the use of antibiotics and to employ the assistance of antimicrobial stewardship colleagues when managing patients diagnosed with COVID-19.

**Disclosures.** Claudine El-Beyrouty, PharmD, BCPS, Astellas (Advisor or Review Panel member); Shionogi (Advisor or Review Panel member)

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### Table 1. Characteristics of study population.

| Variable | Global (N=79) | Prophylaxis (N=46) | No prophylaxis (N=33) | P-value |
|----------|---------------|---------------------|-----------------------|---------|
| Age, median (IQR) | 69 (54-77) | 66 (54-77) | 65 (55-78) | 0.75 |
| Charlson, median (IQR) | 0 (0.5) | 0.5 (0-1) | 1 (0-1) | 0.10 |
| SEIMIC Score, median (IQR) | 10 (5-15) | 10 (5-15) | 10 (5-15) | 0.53 |
| Isolates, N (bacterial / fungal) | 24 (18/6) | 10 (3/5) | 14 (2/2) | 0.51 |
| Patients, N (%) | 14 (20%) | 10 (22.2%) | 4 (19%) | 0.16 |
| Superinfections, N (bacterial / fungal) | 11 (110) | 12 (70) | 5 (45) | 0.01 |
| Patients, N (%) | 10 (13.5%) | 7 (11.5%) | 3 (12%) | 0.41 |

* Mann-Whitney U test ** Fisher exact test

### Table 3. Description of isolates.

| Antibiotic | N isolates, N (%) | Patients with superinfections, N (%) | Superinfections, N (bacterial / fungal) | ICUs admittance, patients, N (%) | In-hospital mortality, N (%) |
|------------|-------------------|-------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| Ceftriaxone | 16 (110) | 9 (27,8%) | 7 (43,8%) | 4 (22,2%) | 7 (43,8%) |
| Ceftobiprole | 2 (17%) | 1 (50%) | 1 (50%) | 1 (50%) | 1 (50%) |
| Other | 1 (5%) | 0 (0%) | 1 (100%) | 1 (100%) | 1 (100%) |
| No prophylaxis | 25 (51%) | 4 (16%) | 5 (20%) | 3 (12%) | 9 (36%) |
|GLOBAL | 70 (24.1%) | 16 (20%) | 11 (15%) | 10 (14.2%) | 26 (28.3%) |

### Table 2. Outcomes according to antimicrobial prophylaxis prior to Tocilizumab.

| Antibiotic | N isolates, N (%) | Patients with superinfections, N (%) | Superinfections, N (bacterial / fungal) | ICUs admittance, patients, N (%) | In-hospital mortality, N (%) |
|------------|-------------------|-------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| Ceftriaxone | 16 (110) | 9 (27,8%) | 7 (43,8%) | 4 (22,2%) | 7 (43,8%) |
| Ceftobiprole | 2 (17%) | 1 (50%) | 1 (50%) | 1 (50%) | 1 (50%) |
| Other | 1 (5%) | 0 (0%) | 1 (100%) | 1 (100%) | 1 (100%) |
| No prophylaxis | 25 (51%) | 4 (16%) | 5 (20%) | 3 (12%) | 9 (36%) |
|GLOBAL | 70 (24.1%) | 16 (20%) | 11 (15%) | 10 (14.2%) | 26 (28.3%) |

### Conclusion.** Antibiotic prophylaxis prior to infusion of TCZ in patients with COVID-19 and receiving steroids could determine the profile of bacterial and fungal superinfections.

**Disclosures.** No reported disclosures

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### 305. Cholecystitis as a Possible Immunologic Consequence of COVID-19; Case Series from a Large Healthcare System

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

**Background.** Gastrointestinal manifestations are commonly seen in COVID-19 disease with up to 50% of patients reporting nausea or diarrhea. Cholecystitis has been described in rare cases related to COVID-19, possibly in consequence of immune activation, but biliary disease from SARS-CoV-2 infection is not well described. We examined a case series of patients with both COVID-19 and cholecystitis at our institution.

**Methods.** We performed a retrospective chart review of all patients with a diagnosis of cholecystitis within 3 months of SARS-CoV-2 infection; looking at clinical, laboratory, and radiographic characteristics of this population.

**Results.** 14 individuals were identified with a diagnosis of cholecystitis within 3 months of diagnosis of SARS-CoV-2 infection. Most patients presenting with cholecystitis were female and obese (see Table 1). 14 individuals were diagnosed with SARS-CoV-2 infection during the same presentation as their cholecystitis diagnosis, usually as part of pre-operative screening. Of 16 individuals diagnosed with SARS-CoV-2 prior to their cholecystitis presentation, a mean of 24 and 17 days elapsed between SARS-CoV-2 infection and cholecystitis symptom onset and radiographic diagnosis, respectively (see Figure 1). Most of these patients had mild respiratory disease, with only 9 developing an oxygen requirement, and only 3 requiring mechanical ventilation. While 17 patients were treated surgically for their cholecystitis, this did not appear to impact symptom resolution.

**Disclosures.** No reported disclosures
**Conclusion.** Cholecystitis may be an uncommon complication of COVID-19 disease. Cholecystitis may manifest most often 2-4 weeks following SARS-CoV-2 infection and given similarities in timing to we hypothesize that cholecystitis in our patients could be driven by immune activation.

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**Methods.** This study is a single-center, retrospective cohort study of 18,757 adults hospitalized during the COVID-19 pandemic from March 1, 2020 to March 31, 2021. Patients were stratified as COVID-19 positive, through all hospitalizations subsequent to the date of initial positivity, or COVID-19 negative. Differences in antibiotic practice patterns between the two groups were quantified using days of therapy per 1000 patient days (DOT/1000 PD). The frequency of *C. difficile* infection, MDR-bacteria, and candida infections were assessed among the two groups.

**Results.** During the 12-month study period, on average, the COVID-19 positive group received 21.81% more antibiotics than COVID-19 negative patients, with up to 56.15% increase seen in the first month of the pandemic (Table 1, Figure 1) The COVID-19 positive group had an increased frequency of Candidemia (0.73% versus 0.18%, *p* < 0.0001) and decreased isolation of ESBL organisms (1.17% versus 1.87%, *p* < 0.01) compared to the COVID-19 negative group. There were no significant differences in frequency of *C. difficile* infection, isolation of other MDR-organisms, or Candida auris between the two groups (Table 2)

**Conclusion.** Patients with a history of COVID-19 infection received an average of 21.81% more antibiotics, have higher rates of candidemia, but lower rates of ESBL infections than those without a history of COVID-19 infection. The potential increase in antibiotic exposure could account for the increase in candidemia in patients with a history of COVID-19. Future studies include investigating the decrease in ESBL infections seen, perhaps due to receipt of broad antibiotics in COVID-19 patients that target ESBL bacteria.

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### Table 1. Patient Characteristics

| Variable | n (%) |
|----------|-------|
| Mean age (range) years | 54.2 (21-90) |
| Sex | Female 26 (53) |
| | Male 18 (46) |
| Race/Ethnicity | White 18 (50) |
| | Black 9 (30) |
| Hispanic | 2 (6) |

### Table 2. Frequency of secondary infections in COVID-19 positive and COVID-19 negative patients

| Month | COVID-19-positive % (DOT/1000 PD) | COVID-19-negative % (DOT/1000 PD) | % difference |
|-------|----------------------------------|-----------------------------------|--------------|
| March 20 | 403.85 | 629.57 | 202.72 |
| April 20 | 394.88 | 417.13 | 23.25 |
| May 20 | 394.12 | 437.09 | 42.97 |
| June 20 | 390.48 | 407.66 | 17.18 |
| July 20 | 413.08 | 466.70 | 53.62 |
| August 20 | 395.56 | 447.58 | 51.92 |
| September 20 | 402.18 | 468.64 | 66.46 |
| October 20 | 406.50 | 489.10 | 82.60 |
| November 20 | 404.61 | 503.96 | 99.35 |
| December 20 | 432.70 | 552.36 | 119.66 |
| January 21 | 430.04 | 518.59 | 88.55 |
| February 21 | 434.07 | 538.79 | 104.72 |
| March 21 | 411.13 | 507.33 | 96.20 |

**Table 1.** Antibiotic days of therapy in COVID-19 positive and COVID-19 negative patients.

**Table 2.** Frequency of secondary infections in COVID-19 positive and COVID-19 negative patients.