

vaping revealed a history of vaping in all EVALI cases; frequency reported varied from multiple times daily to remote use. Some cases with EVALI also had a significant psychiatric history, positive urine drug screen, or significant weight loss prior to hospitalization. Cases with EVALI and steroid treatment improved within days of treatment. In a review of literature, BAL sampling often reveals lipid pneumonia in EVALI cases, which would not be expected in COVID-19. Of note, the single case in our group tested did not have lipid pneumonia on bronchoalveolar lavage (BAL) cytology.

Figure 2. Laboratory Findings among 12 Cases with EVALI

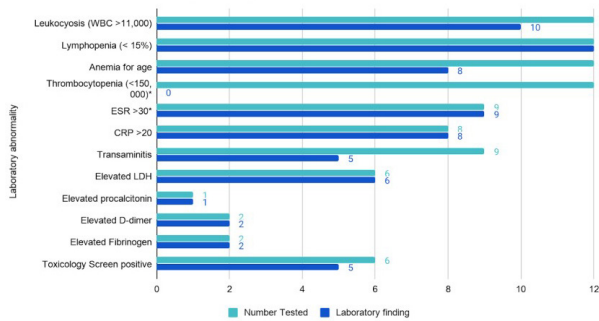
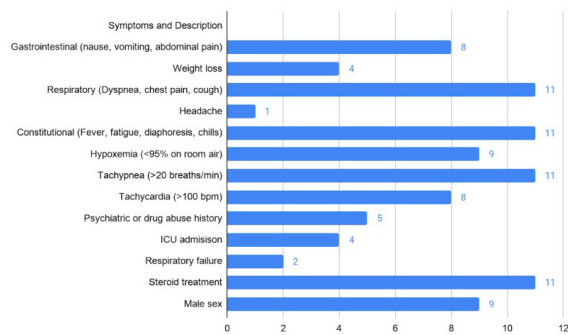


Figure 1. EVALI Case Presentation and Description



Conclusion: Presence of prolonged preceding weight loss, or BAL cytology could help differentiate these clinical states.

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379. Epidemiology of Antimicrobial Use Among SARS-CoV-2 Positive and Negative Admissions in the US: A Multicenter Evaluation

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

Background: SARS-CoV-2, a novel coronavirus, emerged in Wuhan, China in December of 2019, and became a pandemic. Increases in bacterial/fungal co-infections have occurred during influenza pandemics and early data from this pandemic indicate high utilization of antimicrobial therapy. We compared the utilization of antimicrobials and health outcomes between SARS-CoV-2 positive and negative patients.

Methods: Patients hospitalized at 271 US acute care facilities from 3/1/20–5/30/20 with ≥1 day length of stay (LOS) and ≥24 hours of antimicrobial therapy tested for SARS-CoV-2 were included in the study (BD Insights Research Database [Becton, Dickinson & Company, Franklin Lakes, NJ]). Demographics, antimicrobial utilization, duration of antimicrobial therapy, hospital LOS and ICU LOS data were analyzed by SARS-CoV-2 test results.

Results: 142,054 patients were tested for SARS CoV-2 and 12% (n=17,075) were SARS-CoV-2 positive. SARS-CoV-2 negative and positive patients did not differ regarding presence of a positive bacterial culture. Total LOS, % ICU admission, and ICU LOS were higher among SARS-CoV-2 positive patients (Table). In total 48% of admissions were prescribed antimicrobial therapy; rates were higher in SARS-CoV-2 positive versus negative admissions (68% vs. 46%). The most common antimicrobials and classes are in Table.

Antimicrobial therapy and outcomes in hospitalized SARS-CoV-2 tested patients.

Category	SARS-CoV-2 + (n=17,075)	SARS-CoV-2 - (n=124,979)	Total SARS-CoV-2 Tested (n=142,054)
% Male	9,053 (53%)	58,114 (47%)	67,167 (47%)
Age (mean (SD); median years)	61.7 ± 18.0 (63)	58.5 ± 20.9 (62)	58.9 ± 20.6 (62)
Overall LOS (mean (SD); median days)	8.7 ± 12.9 (6)	5.1 ± 9.0 (3)	5.5 ± 9.6 (3)
ICU Admissions, n (%)	4,034 (24%)	20,969 (17%)	25,003 (18%)
ICU LOS (mean (SD); median days)	7.9 ± 8.5 (5.0)	3.8 ± 6.2 (2.0)	4.5 ± 6.8 (2.2)
Admissions with culture positive	3487 (20.9%)	24539 (21.4%)	28026 (21.3%)
Admissions Prescribed Antimicrobials* (duration ≥ 24 hours; n (%))	11,681 (68%)	56,809 (46%)	68,490 (48%)
Culture Positive Hospital LOS (mean (SD); median days)	13.8 ± 16.1 (9)	8.3 ± 11.8 (5)	9.0 ± 12.6 (6)
Admission to Abx Start (mean (SD); median hours)	9.2 ± 51.9 (0)	9.9 ± 50.8 (0)	9.8 ± 51.0 (0)
3rd/4th Gen Cephalosporins	8,643 (74%)	33,750 (59%)	42,393 (62%)
Glycopeptides	3,630 (31%)	21,719 (38%)	25,349 (37%)
Macrolides	8,036 (69%)	16,264 (29%)	24,300 (35%)
β-lactam/β-lactamase inhibitors	3,175 (27%)	19,073 (34%)	22,248 (32%)
Fluoroquinolones	1,277 (11%)	9,689 (17%)	10,966 (16%)
1st/2nd Gen Cephalosporins	560 (5%)	8,705 (15%)	9,265 (14%)
Tetracyclines	2,386 (20%)	6,386 (11%)	8,772 (13%)
Carbapenems	1,083 (9%)	5,025 (9%)	6,108 (9%)
Antifungals	658 (6%)	4,229 (7%)	4,887 (7%)
Anti-influenza agents	933 (8%)	998 (2%)	1,931 (3%)
Top Abx Prescribed as a % of Discharges Prescribed an Abx*			
Ceftriaxone	5,532 (47%)	19,078 (34%)	24,610 (36%)
Azithromycin	6,717 (58%)	11,654 (21%)	18,371 (27%)
Vancomycin	2,108 (18%)	13,054 (23%)	15,162 (22%)
Piperacillin/Tazobactam	1,622 (14%)	12,503 (22%)	14,125 (21%)
Cefepime	2,115 (18%)	9,030 (16%)	11,145 (16%)
Doxycycline	1,780 (15%)	4,839 (9%)	6,619 (10%)

* admissions can be prescribed > 1 antimicrobial class and antimicrobial

Conclusion: Almost half of patients tested for SARS-CoV-2 were prescribed antimicrobials, with antimicrobial use higher among those with SARS-CoV-2, despite similar rates of positive cultures. On average, antimicrobials were prescribed within 10 hours from the time to admission among patients tested. These treatment patterns may highlight the difficulties in making treatment decisions and concerns over potential bacterial superinfection in SARS-CoV-2, but also indicate potential overuse of antimicrobials. Collateral damage from antimicrobial overuse include increase selection of antimicrobial resistance, adverse effects of drugs, and unnecessary treatment costs. It will be important to continue to evaluate the utilization and appropriateness of antimicrobial use among SARS-CoV-2 patients.

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380. First Reports of Salivary Gland Involvement in Corona Virus Disease 2019

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

Background: Many viruses infect salivary glands. These include mumps, Epstein-Barr, herpes virus 6, parainfluenza, influenza, adeno virus, boca virus and others. Almost all coronavirus disease 2019 (COVID -19) infected patients carry the virus in saliva. Salivary duct epithelium were the early target cells in macaque monkeys infected with severe acute respiratory syndrome corona virus (SARS-COV). Here we present 2 COVID-19 cases with the involvement of salivary glands. Salivary gland involvement has not been reported in COVID-19.

Methods: We followed the COVID 19 clinical findings in a Pennsylvania long term care facility with 190 residents. Thirty tested polymerase chain reaction (PCR) positive. However, 48 were presumed infected. Eighteen likely cases were not tested due to shortage of swabs. Thirty four employees also tested positive. Two out of 48 patients aged 78 and 88 developed unilateral sialadenitis during the course of the illness. Both were Hispanic females. We studied the Clinical presentations, co-morbidities, lab and imaging results and the outcome.

Results: Case 1: Two days after the first confirmed case, a 88 year old Hispanic female developed fever and fatigue and tested COVID-19 positive. Fever lasted 5 days. Twenty days later the patient developed a 5x3 cm tender left parotid mass and hypoxia treated with oxygen via nasal cannula. (Table 1)

Case 2: A 78 year old Hispanic female developed high fever and cough 7 days after the index case. Six days later she had persistent fever and presented with a tender 8.5x3.5 cm right submandibular mass. The patient was intubated for 3 days to protect the airway due to the size of the mass. Both made an uneventful recovery. (Table 1 and Figure 1)

Conclusion: New clinical findings of COVID -19 have been gradually added during the course of the pandemic. The virus is almost universally present in the saliva. In experimental Chinese macaques with SARS-COV early target cells were the salivary duct epithelium. Salivary gland inflammation and swelling should be included amongst the clinical features of COVID-19.

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