	Covid-19 patients N = 46	Influenza patients N = 31
Duration of MV prior to VAP	11 (8–16)	13 (6–19)
Previous use of glucocorticoids	4 (9)	2 (6)
Previous use of immunomodulatory drugs	3 (7)	0
White blood cells count at VAP onset, G/L	13 (10–18)	13 (9–16)
mCPIS at VAP onset	4 (3–5)	4 (3–5)
SOFA at VAP onset	11 (9–13)	9 (5–11)
Pathogen responsible for VAP		
Gram negative pathogens		
Enterobacteriaceae	33 (72)	11 (35)
Inducible AmpC Enterobacteriaceae	19 (41)	7 (23)
Klebsiella aerogenes	12	2
Enterobacter cloacae	3	3
Hafnia alvei	2	1
Serratia marcescens	1	0
Citrobacter freundii	1	1
ESBL-producing Enterobacteriaceae	2 (6)	0
Non-fermenting Gram negative bacteria	18 (39)	22 (71)
Pseudomonas aeruginosa	16 (35)	18 (58)
Acinetobacter spp.	0	1 (3)
Stenotrophomonas maltophilia	2 (4)	3 (10)
Gram positive pathogens		
Staphylococcus aureus	3 (7)	2 (6)
Methicillin-susceptible	1 (2)	2 (6)
Methicillin-resistant	2 (4)	0
Enterococcus spp.	3 (7)	2 (6)
Streptococcus spp.	3 (7)	1 (3)
Polymicrobial VAP	14 (30)	7 (23)
Antimicrobial treatment of VAP		
Appropriate empiric treatment	38 (82)	22 (71)
Duration of antimicrobial treatment	7 (7–8)	7 (7–7)
SOFA at the end of antimicrobial treatment	10 (9–13)	8 (4–13)
mCPIS at the end of antimicrobial treatment	3 (2–4)	3 (2–4)
Delta mCPIS	0 (-1–1)	2 (0–2)
PCT at the end of antimicrobial treatment	0.54 (0.34–1.05)	0.7 (0.23–1.36)

Characteristics of recurrent VAP episodes in Covid-19 and influenza patients.

	Episode 2		Episode 3		Episode 4	
	Covid-19	Influenza	Covid-19	Influenza	Covid-19	Influenza
Number of patients	35	18	21	9	11	4
Relapse	26 (74)	11 (61)	16 (76)	7 (78)	11 (100)	4 (100)
Time between end of treatment and relapse	2 (1–3)	2 (0–4)	2 (0–4)	3 (1–5)	2 (0–4)	8 (6–9)
Relapse before end of treatment	7 (27)	4 (22)	7 (44)	2 (22)	6 (55)	0
Superinfection	9 (25)	7 (39)	5 (24)	2 (22)	0	0
Time between end of treatment and superinfection	3 (0–8)	8 (7–11)	0 (0–0)	35 (23–48)	-	-
Superinfection before end of treatment	3 (33)	0	4 (100)	0	-	-
Pathogen responsible for VAP recurrence						
Pseudomonas aeruginosa	19 (54)	12 (67)	12 (57)	7 (87)	8 (73)	4 (100)
Enterobacteriaceae	16 (46)	5 (28)	11 (52)	1 (13)	7 (64)	0
Inducible AmpC Enterobacteriaceae	11 (31)	2 (10)	10 (48)	0	6 (55)	0
ESBL-producing Enterobacteriaceae	2 (6)	0	0	1 (13)	0	0
Stenotrophomonas maltophilia	2 (6)	0	1 (5)	0	1 (9)	0
Acinetobacter baumannii	0	1 (6)	0	0	0	0
Methicillin-resistant Staphylococcus aureus	1 (3)	0	0	0	0	0
Methicillin-susceptible Staphylococcus aureus	1 (3)	0	1 (5)	0	0	0
Enterococcus faecalis	2 (6)	0	4 (19)	0	0	0

Conclusion: Patients with severe COVID-19–associated respiratory failure requiring MV had a very high late-onset VAP rate. Inducible AmpC cephalosporinase–producing Enterobacteriaceae and *Pseudomonas aeruginosa* appeared to be frequently responsible for VAP, with multiple subsequent episodes and difficulties to eradicate the pathogen from the lung.

Disclosures: **All Authors**: No reported disclosures

360. A Case Control Study of COVID-19 in Patients with End Stage Renal Disease (ESRD)

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

Background: COVID-19 is a major global pandemic. Since the first case reported in Wuhan, China, COVID-19 has spread across the globe with more than 7.6 million individuals affected worldwide. Several studies have tried to investigate the risk factors for mortality but there has bot been a definitive study in patients with ESRD. Herein, we aimed to investigate whether ESRD is associated with mortality as compared to age, gender and comorbidities matched cohorts.

Methods: A retrospective case control study was performed on patients 18-year-old with confirmed SARS-CoV-2 admitted to our hospital during the study period (03/15/2020 to 05/15/2020). Demographic, characteristics and clinical outcome were retrieved and reviewed. We found 39 ESRD patients, we matched them for 5 variables: Age, gender, diabetes mellitus (DM), hypertension (HTN), and body mass index (BMI). Age was stratified into 3 groups (< 30, 30 to 60, >60), history of DM and HTN were defined by reviewing the admission medications, and BMI was divided into 2 categories (< 30 and 30 kg/m2). The primary endpoint was percentage of inpatient mortality.

Results: We had 39 ESRD patients with COVID-19 out of the 400 patients admitted during the study period with known clinical outcome. Nineteen patients (49%) were between 30 to 60 years old while the rest (51%) were older than 60 years old. As for gender, 25 (64%) were males and 14 (36%) females. Additional comorbidities were present in 38 patients with hypertension (92%) being the most common, followed by DM (64%) and BMI >30 kg/m2 (49%). With the 5 variables, we were able to match with 177 controls.

Nineteen individuals expired out of the 39 ESRD patients (49%), as compared to 46 patients from the 177 matched cohort (26%) (z-score 2.80, p=0.0051; odds ratio [OR], 2.71; 95% confidence interval [CI], 1.28–5.41).

Conclusion: Our results suggest that ESRD patients is an independent risk factor for increased mortality in patients with COVID 19 disease. Larger prospective studies will need to confirm this finding and try to find ways to mitigate this very high mortality in this vulnerable population.

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

361. A Case Control Study of COVID-19 Outcome in Patients with HIV

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

Background: Little is known regarding outcome of patients living with HIV (PLWH) when they get admitted to a hospital for Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2) infection. We decided to conduct a case-controlled study to try to answer the question if PLWH are at higher risk of mortality compared to individuals without HIV infection but with the same risk factors that affects outcome in COVID-19 disease.

Methods: A retrospective case matched control study was performed from 03/15/2020 to 05/15/2020. We reviewed all confirmed SARS-CoV-2 infected patients who were admitted to our hospital during the study period and retrieved 7 variables: Age, gender, diabetes mellitus (DM), hypertension (HTN), body mass index (BMI), chronic kidney disease (CKD), HIV status. We divided the age in 3 groups (< 30, 30 to 60, > 60), we defined the presence of DM and HTN by reviewing the admission medications, BMI > 30 defined obesity, and CKD was present if eGFR < 45 ml/min prior to the current admission. We found 12 PLWH, we matched them for the 6 variables, we found 94 controls. The primary endpoint was percentage of inpatient mortality.

Results: Of the 436 confirmed SARS-CoV-2 infection admitted between 03/15/20 and 05/15/20, 36 were still hospitalized. Twelve were PLWH out of the 400 patients with known outcome; 7 patients (58%) have the age range between 30 to 60 years old while the rest (42%) have age > 60 years old. Male to female ratio was 1:1 (6 patients each). Comorbidities were present in 10 patients (83%) with HTN (83%) being the most common, followed by CKD (58%), obesity (33%), and DM (33%).

Only 1 patient expired out of the 12 PLWH (8%) admitted with COVID-19, as compared to 26 patients from the 98 matched cohort (27%) (z-score 1.38, p=0.17; odds ratio [OR], 3.972; 95% confidence interval [CI], 0.62–44.37).