SARS-CoV-2 coronavirus, influenza and RSV (p=0.01) was shown (Figure 1).

Table 1. Characteristics of readmissions after RSV hospitalization

| Data | SARS-CoV-2 | Non-SARS-CoV-2 | Influenza | RSV |
|------|-------------|----------------|------------|-----|
| Gender (female) | 64 (42.8%) | 31 (46.9%) | 43 (45.0%) | 29 (38.0%) |
| Age (years) | 55 (56.3) | 65 (47.9) | 61 (43.9) | 45 (43.2) |
| Time to infection post-SOT (months) | 25 (7.8-73) | 13 (7.7-73.5) | 25 (4.9-90.2) | 14.4 (4.4-44.5) |
| Maintenance | 94 (59.8%) | 71 (51.6%) | 49 (49.0%) | 29 (58.0%) |
| Catecholamine inhibitor | 130 (82.8%) | 73 (51.1%) | 86 (86.0%) | 12 (24.0%) |
| Antimetabolites | 133 (83.4%) | 51 (70.8%) | 76 (78.0%) | 7 (74.0%) |
| Kidney transplant | 151 (77.6%) | 27 (37.8%) | 58 (58.0%) | 26 (52.0%) |
| Liver transplant | 15 (9.6%) | 6 (8%) | 10 (10.0%) | 7 (14.0%) |
| Lung transplant | 13 (7.6%) | 20 (27.3%) | 6 (6.8%) | 7 (13.4%) |
| Heart transplant | 12 (7.6%) | 9 (12.5%) | 13 (13.0%) | 2 (4.0%) |
| Other/combined transplant | 14 (8.9%) | 10 (13.9%) | 13 (13.0%) | 7 (14.0%) |
| ANC [10^3 cells/μL] | 3.7 (2.4–6.1) | 4.5 (2.1–7.2) | 4.3 (3.6–7.0) | 4.0 (3.5–8.4) |
| ALC [10^3 cells/μL] | 0.7 (0.4–1.2) | 0.7 (0.5–1.3) | 0.6 (0.3–1.2) | 0.5 (0.3–1.3) |

Figure 1. Kaplan Meier Curve: Comparison of Mortality between SARS-CoV-2, non-SARS-CoV-2 coronavirus, influenza and RSV.
Conclusion. We found higher incidence of ICU admission, mechanical ventilation, and mortality among SARS-CoV-2 SOTR vs other respiratory viruses. To validate these results, multicenter study is warranted.

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1348. A Novel Host-Protein Signature Comprising TRAIL, IP-10 and CRP Differentiates Bacterial from Viral Infection in COPD Patients with Suspected Lower Respiratory Tract Infection
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Session: P-74. Respiratory Infections - Viral

Background. Identifying infectious etiology is often challenging, yet essential for patient management, including antibiotic use. Studies have shown that a host signature comprising TNF-related apoptosis induced ligand (TRAIL), interferon gamma induced protein-10 (IP-10) and C-reactive protein (CRP) accurately differentiates bacterial from viral infection with negative predictive value >98%. Performance data was lacking in chronic obstructive pulmonary disease (COPD) patients with suspected lower respiratory tract infection (LRTI).

Methods. Adults aged >18 years with suspected LRTI were prospectively recruited at 3 medical centers (OBSERVER: grant #864389; NC19003011515). Reference standard infection etiology was adjudicated by 3 independent experts based on clinical, laboratory, microbiological, radiological and follow-up data. Host signature generates a bacterial (65-100). Experts were blinded to the signature result.

Results. Out of 583 adults recruited with suspected LRTI, 422 met infectious criteria, of whom 48 had a recorded history of COPD. 19 cases were adjudicated by the experts as bacterial, 14 as viral and 15 were indeterminate (Figure 1). The mean age was 68.2 years (standard deviation 12.3); 33 (68.8%) presented after two or more days of symptoms and 38 (79.2%) were hospitalized for a median of 6 days. 15 (31.2%) had presumptive active syphilis (50%), 34 had previously treated syphilis (23%), 12 had false positives (8%), and 28 had an unclear diagnosis (19%) (Table 2). Of those with presumptive primary syphilis who were discharged from the ED, 53% (8/15) received empiric treatment in the ED; 59% (10/17) of those with secondary syphilis received empiric treatment prior to discharge. Of the patients discharged from the ED, clinical follow up was indicated for 52% (31/59) given lack of empiric treatment or of confirmed prior treatment. Contact was attempted for 39% (12/31), but only 29% (9/31) were ultimately treated at Grady.

Table 1: Abstracted Reasons for Testing for Syphilis in the ED

| Reason for Testing | Number of Patients | Percentage of Total |
|--------------------|--------------------|--------------------|
| Stroke Work        | 22                 | 14.9%              |
| Genital Lesion     | 13                 | 13.5%              |
| History of Syphilis| 12                 | 12.8%              |
| AMD/Dementia       | 11                 | 11.5%              |
| Rash               | 6                  | 6.8%               |
| HIV positive       | 9                  | 9.5%               |
| Other STI Symptoms | 6                  | 6.8%               |
| Alpha Hemolytic    | 4                  | 4.6%               |
| Yeast Infection    | 3                  | 3.1%               |
| Syphilis Proctitis | 2                  | 2.1%               |
| Condyloma Lat     | 1                  | 1.1%               |
| Early Latent       | 1                  | 1.1%               |
| Presumed False Positive | 1 | 1.1% |
| Syphilis Proctitis | 1                  | 1.1%               |
| Condyloma Lat     | 1                  | 1.1%               |
| Early Latent       | 1                  | 1.1%               |
| Presumed False Positive | 1 | 1.1% |
| Syphilis Proctitis | 1                  | 1.1%               |
| Condyloma Lat     | 1                  | 1.1%               |
| Early Latent       | 1                  | 1.1%               |
| Presumed False Positive | 1 | 1.1% |
| Syphilis Proctitis | 1                  | 1.1%               |
| Condyloma Lat     | 1                  | 1.1%               |
| Early Latent       | 1                  | 1.1%               |
| Presumed False Positive | 1 | 1.1% |
| Syphilis Proctitis | 1                  | 1.1%               |
| Condyloma Lat     | 1                  | 1.1%               |
| Early Latent       | 1                  | 1.1%               |
| Presumed False Positive | 1 | 1.1% |
| Syphilis Proctitis | 1                  | 1.1%               |
| Condyloma Lat     | 1                  | 1.1%               |
| Early Latent       | 1                  | 1.1%               |
| Presumed False Positive | 1 | 1.1% |
| Syphilis Proctitis | 1                  | 1.1%               |
| Condyloma Lat     | 1                  | 1.1%               |
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| Presumed False Positive | 1 | 1.1% |
| Syphilis Proctitis | 1                  | 1.1%               |
| Condyloma Lat     | 1                  | 1.1%               |
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| Presumed False Positive | 1 | 1.1% |
| Syphilis Proctitis | 1                  | 1.1%               |
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| Presumed False Positive | 1 | 1.1% |
| Syphilis Proctitis | 1                  | 1.1%               |
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| Presumed False Positive | 1 | 1.1% |
| Syphilis Proctitis | 1                  | 1.1%               |
| Condyloma Lat     | 1                  | 1.1%               |