...and 6 B). Mean time from onset of symptoms to RVP was 2.25 ± 2.24 days and patients with who did not have a clinical sample. Multivariate regression was used to estimate results were recorded. Research swabs for influenza (CDC PCR) were performed in all were obtained through enrollment interviews and medical records. Clinical RVP... increases in morbidity and mortality. We aimed to analyze: (1) the use of these patients received oseltamivir. Use of antivirals was significantly more common in patients who had RVPs (68 vs 1%).

**Conclusion:** One-third of patients admitted to the ICU with ARI during the flu season did not have an RVP, including 25% of patients with ≥1 high-risk condition for influenza complications. Influenza was present in 8% of patients who did not undergo clinical testing and 64% of these patients did not receive antivirals. There is room for improvement in ordering of RVPs in ICUs.

**Disclosures. All authors:** No reported disclosures.

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### 2785. Respiratory Viral Panel Testing in Intensive Care Units: Effects on Outcomes

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**Session:** 281. Viral Respiratory Diseases

Saturday, October 5, 2019: 12:15 PM

**Background:** In utero Zika virus (ZIKV) infection causes birth defects and neurodevelopmental deficits in neonates. We reasoned that a translational macaque model of congenital ZIKV infection could define disease pathophysiology not possible in human clinical studies.

**Methods:** We inoculated 5 pregnant rhesus macaques with a Puerto Rican isolate of ZIKV (ZIKV-PRV ABC59) during the first trimester, monitored infection with viral RNA (vRNA) loads, and evaluated infants for birth defects and neurodevelopmental deficits during their first week of life. Assessments included neurobehavioral assessments, ophthalmic examinations, optical coherence tomography, electroretinography with visual evoked potentials, hearing examinations, brain magnetic resonance imaging (MRI), and tissue histopathological analyses.

**Results:** All five pregnant dams demonstrated plasma viremia and seroconversion following ZIKV inoculation. One of the five pregnancies resulted in a stillbirth. All liveborn infants had decreased feeding volumes and weight gain compared with... one of the five pregnancies resulted in a stillbirth. Assessments included neurobehavioral deficits during their first week of life. Assessments included neurobehavioral assessments, ophthalmic examinations, optical coherence tomography, electroretinography with visual evoked potentials, hearing examinations, brain magnetic resonance imaging (MRI), and tissue histopathological analyses.

**Conclusion:** In utero ZIKV exposure resulted in decreased feeding volumes and weight gain, which may be related to the gray matter changes identified in the pharyngeal motor cortex responsible for coordinating swallowing. Ocular studies identified differences between ZIKV-exposed and control infants in retinal layer thickness (inner plexiform, outer nuclear layers, photoreceptor outer segment) and visual evoked potentials (increased amplitude of waveforms). While ZIKV vRNA was detected in 4 of 5 pregnancies, no ZIKV vRNA was identified in infant tissues and none of the infants developed an anti-ZIKV IgM response.

**Disclosures. All authors:** No reported disclosures.

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### 2787. Respiratory Syncytial Virus in Elderly Adults

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**Background:** The role of respiratory viruses other than influenza in acute respiratory tract infections (ARTI) among elderly adults has probably been underestimated. Recent advances in molecular diagnostics have made the rapid identification of RSV infection possible. The aim of our study was to assess the role of RSV in patients older than 65 years.

**Methods:** Prospective observational study (April 2018–February 2019) conducted in a 137-bed institution in Buenos Aires, Argentina. All consecutive elderly patients (>65 years) admitted with ARTI were included. Clinical and laboratory parameters as well as nasopharyngeal swab for respiratory viruses were obtained. Blood cultures and sputum collection, were analyzed. Viral detection was performed according to CDC real-time RT–PCR assay. All patients underwent clinical follow-up during hospitalization up to 30 days after discharge.

**Results:** A total of 124 patients were recruited (mean age 82 years; range: 65–98 years), 58% female. Clinical diagnosis at admission were: community-acquired pneumonia 90% (72%), COPD exacerbation 11% (9%), acute bronchitis 10% (8%), healthcare-associated pneumonia 9% (7%), and bacterial pneumonia 7% (6%). Blood cultures were obtained in 92 patients: 4 positives for Streptococcus pneumoniae, 3 E. coli, 2 SAMS, 1 Klebsiella pneumoniae. Sputum was obtained in 20 patients, none were positive. The viral results of the 124 samples were: RSV 13% (10.4%), Influenza B 9.7% (7.2%), Influenza A 8.6% (6.4%). Regarding RSV positive patients, the mean age was 87 years and 69% were female. 30% had history of heart failure and 30% had history of COPD. Clinical diagnosis on
admission were: CAP 10 (77%), COPD exacerbation 2 (15%) and bronchitis 1 (8%). Non productive cough was present in 46% and bronchospsam in 85%. Mean time of hospitalization was 9 days (R: 4–16) and fever duration 1 day (R: 0–2). The median duration of antibiotic treatment was 9.5 days (R: 4 to 15) No viral nor bacterial coinfections were observed. No early mortality was registered, global mortality was 23% (3 patients). Death was clinically related to RSV infection.

**Conclusion:** This study suggest that RSV is a relevant respiratory pathogen in the elderly population, with significant associated morbidity and mortality rates. Current treatment is limited to supportive care and prevention to standard infection control practices. A new approach is needed to improve RSV infection management.

**Disclosures. All authors:** No reported disclosures.

**2788. Case Report: Severe Community-Acquired Human Adenovirus 7 Infection in a Mother and Son**

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**Session:** 281. Viral Respiratory Diseases

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**Background:** We present the case of a 42-year-old male (Patient 1) with a history of morbid obesity and cirrhosis of unclear etiology who died of acute hypoxic respiratory failure and devastating encephalitis after community-acquired infection with human adenovirus 7 (HAdV7) in spite of antiviral treatment with Cidofovir. Patient 1’s course is outlined in Figure 1. During his stay, the patient’s mother (Patient 2) was also hospitalized in the same unit following a similar presentation with 10 days of flu-like symptoms that progressed to ARDS requiring intubation. Patient 2 recovered from her infection with no specific antiviral treatment.

**Methods:** N/A.

**Results:** These cases illustrate particularly fulminant presentations of HAdV7 infection and highlight the high pathogenicity of HAdV7 compared with other adenovirus subtypes. Severe lower respiratory tract HAdV7 infections have been reported most commonly as outbreaks of respiratory illness among military recruits and infants. A notable recent outbreak of HAdV-7 in New Jersey in 2016–2017 resulted in 12 confirmed cases with 4 deaths; however, all deaths occurred in patients with significant medical comorbidities. In a case particularly striking for its similarity to the one presented here, a healthy 44-year-old male along with his 68-year-old father were hospitalized with human adenovirus 7 (HAdV7) in December 2014, with the son requiring ECMO for ARDS and the father briefly requiring ICU-level care. While our patient’s case is by no means unprecedented, it does represent an uncommon and potentially serious infection that points to need for continued nosocomial testing efforts and deserves special attention in outbreak settings. In the future, perhaps use of the extant vaccine for human adenovirus serotypes 4 and 7 (currently licensed for military personnel) could be expanded for use in civilian populations could be explored and potentially expanded for use in outbreak settings.

**Conclusion:** While our patient’s case is by no means unprecedented, it does represent an uncommon and potentially serious infection that points to need for continued nosocomial testing efforts and deserves special attention in outbreak settings. In the future, perhaps use of the extant vaccine for human adenovirus serotypes 4 and 7 (currently licensed for military personnel) could be expanded for use in civilian populations could be explored and potentially expanded for use in outbreak settings.

**Disclosures. All authors:** No reported disclosures.

**2789. Respiratory Syncytial Disease in Hospitalized Adults: A Retrospective Cohort Study**

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**Session:** 281. Viral Respiratory Diseases

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**Background:** Respiratory syncytial virus (RSV) is associated with significant mortality rates amongst hematopoietic stem cell transplant (HSCT) and lung transplant recipients. Although RSV is responsible for ~177,000 hospitalizations and 14,000 deaths annually, few epidemiologic studies including all adults including those with immunocompromise have been conducted over multiple seasons.

**Methods:** A retrospective cohort study of adults admitted to a large academic medical center in Chicago, IL, from 2009 to 2018 was conducted in patients with positive RSV PCR. Specific data on clinical presentation, management, and outcomes were collected by manual chart review. Descriptive statistics were calculated, and Pearson’s Chi-Squared test was utilized to assess association between severe disease status and comorbidities.

**Results:** A total of 140 patients were admitted during part of the study period (2016–2018) with positive PCR for RSV. Most patients had otherwise underlying comorbidities prior to admission (lung 44.2%, heart 40.0%, diabetes 20.7%), history of immunocompromise (36.4%, 51) or history of smoking (39.2%, 55). Cough was the most common symptom among all hospitalized adults (90.7%, 127). However, patients with a history of transplant (both HSCT and SOT) more commonly displayed symptoms of fevers at presentation (50%, 10) when compared with non-immunocompromised patients (36.6%, 36). ICU admission occurred in one-third of the hospitalized patients, with no significant difference amongst transplant patients, immunocompromised patients, and non-immunocompromised patients. Need for mechanical ventilation was highest in patients with co-infections. None of the co-morbidities measured were independent risk factors for severe disease. Most patients (78.5%, 110) were discharged home. Among the 12 fatal cases, all were admitted to the ICU with seven (58.3%) requiring mechanical ventilation. Three (25.0%) were immunocompromised while two (16.7%) were HSCT patients, but none were solid-organ transplant patients.

**Ongoing data collection.**

**Conclusion:** RSV patients were diverse in their demographics, treatment, and outcomes. Large percentages of patients had underlying comorbidities such as immunocompromise due to HSCT, lung and heart disease.

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