admission were included in the analysis. cTnI above upper limit of normal (>0.03 ng/dL) was defined as elevated. Demographic and clinical data were abstracted from chart review. Outcomes were myocardial infarction (MI) on admission, 30- and 90-day re-admissions due to cardio-respiratory illness and 30- and 90-day all-cause mortality. For the univariable analysis of baseline factors and outcomes we used unpaired t-tests for continuous variables and Fisher exact test for categorical variables as appropriate.

Results. Ninety-four of 332 cases were vPCR positive and cTnI levels on admission were available in 86. Demographics and comorbidities were all similar for the high (N = 42) and normal (N = 44) cTnI groups. Compared with normal cTnI group, those with high cTnI had similar 30- and 90-day readmission rates (14% vs 9%, P = 0.4, and 26% vs 16%, respectively, P = 0.2). However, 30- and 90-day mortality rates were higher for high cTnI patients (10% vs 0% and 19% vs 5%, P < 0.03).

Conclusion. Troponin elevation on patients with a documented viral respiratory infection is associated with higher 30- and 90-day mortality rates. Troponin leak should not be dismissed as a trivial finding in this group of patients. Further work on its pathogenesis is warranted.

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743. Severity and Costs of Respiratory Syncytial Virus and Bronchiolitis Hospitalization in Community-Scheduled Outpatient and Term Infants Before and After the 2014 American Academy of Pediatrics Guidance Change on Immunoprophylaxis

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Background. In 2014, the American Academy of Pediatrics (AAP) stopped recommending respiratory syncytial virus (RSV) immunoprophylaxis in infants 29–34 weeks gestational age (wGA) without chronic lung disease (CLD) or congenital heart disease (CHD). This study examined the impact of this guidance change on the severity and costs of first-year RSV hospitalizations (RSVH) and all-cause bronchiolitis hospitalizations (BH) among preterm (PT) vs term infants in the 2014–2016 seasonal years relative to the 2011–2014 seasonal years.

Methods. Infants aged <1 year between July 1, 2011 and June 31, 2016 were identified from commercial insurance claims in the Optum Research Database. Diagnosis codes identified births of term and 29–34 wGA infants without CLD, CHD, or other health problems, RSVH, and BH. Length of stay (LOS), admission to the intensive care unit (ICU), and use of mechanical ventilation (MV) were captured for both RSVH and BH severity.

Results. A total of 362,382 births (29–34 wGA and term without major health problems) were identified, of which 13,666 (3.8%) were PT. RSVH and BH were more severe among PT infants in 2014–2016 vs 2011–2014, with a greater mean LOS (RSVH: 6.8 vs 4.7 days, P = 0.008; BH: 7.2 vs 6.4, P = 0.003), a higher proportion of infants admitted to the ICU (RSVH: 42.4% vs 36.5%, P = 0.014; BH: 39.1% vs 23.7%, P = 0.009), and increased use of MV (RSVH: 14.1% vs 6.1%, P = 0.007; BH: 14.8% vs 5.3%, P = 0.013). Among term infants, LOS and ICU admissions were similar between 2014–2016 and 2011–2014 (P > 0.05), but there was an increased use of MV in the 2014–2016 period (BH: 3.4% vs 2.3%, P = 0.031). Mean costs per hospitalization were greater for PT infants in 2014–2016 compared with 2011–2014 (RSVH: $29,382 vs $16,572, P = 0.059; BH: $26,101 vs $15,896, P = 0.047), whereas mean term hospitalization costs were similar (RSVH: $15,011 vs $15,472, P = 0.705; BH: $14,555 vs $14,603, P = 0.507).

Conclusion. RSVH and BH severity and per-hospitalization costs (higher among PT infants relative to term infants) increased following the 2014 AAP immunoprophylaxis guidance change. The increases are likely explained by more frequent RSV hospitalization (RSVH: $29,382 vs $16,572, P = 0.009) and increased use of MV (RSVH: 14.1% vs 6.1%, P = 0.007; BH: 14.8% vs 5.3%, P = 0.013). For older elderly patients 265 years of age, there was no significant vaccine effectiveness against PP. For young elderly patients with 65–74 years, IV alone (1.2%, [95% confidence interval (CI) −5.3% to 0.0%]) and PPV23 alone (21.9%, [95% CI −39.0% to 0.0%]) were not effective. However, significant vaccine effectiveness for IV plus PP was noted (54.4%, [95% CI 6.9–77.7%], P = 0.031). For older elderly patients 275 years of age, no significant vaccine effectiveness was observed.

Conclusion. Our study indicates that PPV23 plus IV may be effective in preventing PP among young elderly patients with 65–74 years, suggesting additive benefits of influenza plus PPV23 vaccination. Further studies are required to confirm the persisting additive protective effectiveness.

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745. Surveillance for Oseltamivir-Resistant Influenza A(H1N1)pdm09 Virus Infections During 2016–2017 and 2017–2018, United States

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Background. The national immunization program (NIP) of annual influenza vaccination to the elderly population (265 years of age) in the Republic of Korea (ROK) has been implemented since 1987. Recently, the 23-valent pneumococcal polysaccharide vaccine (PPV23) through the NIP has been provided to the elderly population in the ROK since May 2013. The aim of this study was to assess PPV23 and influenza vaccine (IV) effectiveness in preventing pneumococcal pneumonia (PP) among elderly patients 265 years of age.

Methods. A case–control study using a hospital-based cohort was conducted. Cases of PP including bacteremic PP and nonbacteremic PP were collected from 14 hospitals in the pneumococcal diseases surveillance program from March 2013 to October 2016. Controls matched to cases by age and hospital in the 90 days before PPV administration were selected. Demographic, clinical information, and vaccination histories were collected. Previous immunization was categorized into “vaccinated” if a patient had received vaccines as follows: PPV23 (4 weeks to 5 weeks) and IV (2 weeks to 6 months) prior to the diagnosis. Adjusted odds ratio (OR) was calculated, controlling for underlying medical conditions. Vaccine effectiveness was defined as (1 – OR) × 100.

Results. During the study period, a total of 661 cases (104 bacteremic PP cases and 557 nonbacteremic PP cases) and 661 controls were enrolled for analyses. For overall patients 265 years of age, there was no significant vaccine effectiveness against PP. For young elderly patients with 65–74 years, IV alone (1.2%, [95% confidence interval (CI) −5.3% to 0.0%]) and PPV23 alone (21.9%, [95% CI −39.0% to 0.0%]) were not effective. However, significant vaccine effectiveness was observed for IV plus PP was noted (54.4%, [95% CI 6.9–77.7%], P = 0.031). For older elderly patients 275 years of age, no significant vaccine effectiveness was observed.

Conclusion. For overall patients, we observed no significant vaccine effectiveness for IV alone, PPV23 alone, or IV plus PP. For young elderly patients, we observed significant vaccine effectiveness for IV plus PP.

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