Conclusion: The PRP from HBV- ISS in PWH appears comparable to the immunocompetent patients included in RCTs, especially when patients with significant non-HBV immunosuppression are excluded. The PRP demonstrated in this single-arm, retrospective study was higher than that of HRV-Eng in immunocompetent patients, and consideration should be given to establishing HBV- ISS as first-line HBV vaccination in PWH. Finally, PRP is significantly reduced in those with lower current and nadir CD4+ counts. Further research on the effectiveness of a repeat vaccination series or higher dosing in these subgroups is needed.

Disclosures: Jennifer Cocohoba, PharmD, AAHPBP, BCPS, Viiv (Grant/ Research Support)

22. Description of Hospitalized Patients with Influenza Vaccine Failure

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Session: P-2. Adult Vaccines

Background: Despite influenza vaccination, some patients develop illness and require hospitalization. Many factors contribute to vaccine failure, including mismatch of the vaccine and circulating strains, waning immunity, timing of influenza season, and patient comorbidities such as immune function. This study compared vaccinated, hospitalized patients with and without influenza.

Methods: This study used 2015-2019 Tennessee data from the US Hospitalized Adult Influenza Vaccine Effectiveness Network database. Enrolled patients were ≥18 years vaccinated for the current influenza season and admitted with an acute respiratory illness. Patient or surrogate interviews and medical chart abstractions were performed, and influenza vaccinations were confirmed by vaccine providers. Influenza PCR was performed in a research lab. Statistical analyses were performed with STATA and R using Pearson’s chi-squared, Kruskal-Wallis and Wilcoxon rank-sum tests and multivariate logistic regression.

Results: 1236 patients met study criteria, and 235 (19%) tested positive for influenza. Demographics, vaccines and comorbidities were similar between the two groups (Table 1) except for morbid obesity, which was more common in influenza negative patients (13% vs 8%, p = 0.04), and immunosuppression, which was more common in the influenza positive (63% vs 54%, p = 0.01). Logistic regression analysis demonstrated older patients (OR 1.47, 95% CI 1.03-2.10) and immunocompromised patients (OR 1.56, 1.15-2.12) were at increased risk for influenza (Table 2 and Figure 1). Immunosuppression also increased the risk for influenza A/H3N2 (OR 1.86, 95% CI 1.25–2.75). A sensitivity analysis was performed on patients who self-reported influenza. Increased risk for influenza was noted in morbid obesity (OR 2.92, 1.32-6.44), age (OR 1.25–2.75). A sensitivity analysis was performed on patients who self-reported influenza. Increased risk for influenza was noted in morbid obesity (OR 2.92, 1.32-6.44), age (OR 1.25–2.75). A sensitivity analysis was performed on patients who self-reported influenza. Increased risk for influenza was noted in morbid obesity (OR 2.92, 1.32-6.44), age (OR 1.25–2.75).

Discussion: Increased risk for influenza was noted in morbid obesity (OR 2.92, 1.32-6.44), age (OR 1.25–2.75). A sensitivity analysis was performed on patients who self-reported influenza. Increased risk for influenza was noted in morbid obesity (OR 2.92, 1.32-6.44), age (OR 1.25–2.75). A sensitivity analysis was performed on patients who self-reported influenza. Increased risk for influenza was noted in morbid obesity (OR 2.92, 1.32-6.44), age (OR 1.25–2.75). A sensitivity analysis was performed on patients who self-reported influenza. Increased risk for influenza was noted in morbid obesity (OR 2.92, 1.32-6.44), age (OR 1.25–2.75). A sensitivity analysis was performed on patients who self-reported influenza. Increased risk for influenza was noted in morbid obesity (OR 2.92, 1.32-6.44), age (OR 1.25–2.75). A sensitivity analysis was performed on patients who self-reported influenza. Increased risk for influenza was noted in morbid obesity (OR 2.92, 1.32-6.44), age (OR 1.25–2.75). A sensitivity analysis was performed on patients who self-reported influenza. Increased risk for influenza was noted in morbid obesity (OR 2.92, 1.32-6.44), age (OR 1.25–2.75). A sensitivity analysis was performed on patients who self-reported influenza. Increased risk for influenza was noted in morbid obesity (OR 2.92, 1.32-6.44), age (OR 1.25–2.75). A sensitivity analysis was performed on patients who self-reported influenza. Increased risk for influenza was noted in morbid obesity (OR 2.92, 1.32-6.44), age (OR 1.25–2.75).

Table 1: Demographics of influenza positive versus influenza negative patients in influenza vaccinated, hospitalized patients.

| Table 1: Demographics of influenza positive versus influenza negative patients in influenza vaccinated, hospitalized patients. | p-value |
|---|---|
| Male | 137 (68) | 539 (54) |
| Female | 85 (42) | 484 (46) |
| Race – no. (%) | | |
| African-American | 57 (28) | 218 (20) |
| Asian | 0 | 7 (0.7) |
| White | 165 (79) | 707 (67) |
| Other | 0 | 4 (0.4) |
| Pregnant at time of enrollment | 0 | 9 (0.9) |
| Self-reported being vaccinated for current influenza season – no. (%) | 144 (65) | 576 (56) |
| Vaccine type – no. (%) | | |
| Standard (whole, subunit, recombinant, cell culture) | 113 (59) | 625 (60) |
| High-dose and adjuvanted | 94 (47) | 360 (35) |
| Median time between vaccine and symptom onset date – days | 120 (95, 140) | 114 (77, 150) |
| Any immunosuppression | 147 (68) | 537 (54) |
| Smoking (including vaping) in past 6 mo. | 58 (25) | 261 (25) |
| Home QE use prior to admission | 48 (49) | 201 (50) |
| Cancer (including hematology) | 33 (14) | 150 (34) |
| Heart disease | 133 (59) | 564 (54) |
| Lung disease | 121 (51) | 595 (59) |
| Kidney disease (including ESRD) | 92 (41) | 285 (48) |
| Diabetes mellitus | 99 (45) | 374 (37) |
| Liver disease | 19 (9) | 62 (7) |
| Medical obesity | 17 (8) | 131 (13) |

Results: Analysis of ten independent community pharmacies revealed an increase in the total number of pneumococcal vaccines purchased in November in years a campaign took place compared to baseline. The total number of pneumococcal vaccines purchased in November increased 23% during the first campaign and another 23% during the second campaign (13 vs. 16 vs. 50 vaccines purchased in November 2017, 2018, and 2019, respectively). Increased vaccine uptake was also observed in months subsequent to the in-pharmacy campaign. Analysis of ten independent community pharmacies revealed a 47% increase in the mean number of pneumococcal vaccines purchased per month by the banner (8.8 mean number of pneumococcal vaccines purchased per month twelve months pre-implementation vs. 12.9 twelve months post-implementation). A “Did You Pneu?” pneumococcal immunization campaign was developed by a pharmacist at the head office of an independent community pharmacy banner. The campaign consisted of pharmacist educational materials, in-pharmacy marketing materials, and pharmacy operational supports (Figure 1). In November 2018, a month-long in-pharmacy campaign was carried out across the banner. Feedback collected from pharmacists via telephone interviews was used to inform updates to campaign materials for the November 2019 campaign. A convenience sample of ten independent community pharmacies located across Ontario was selected for a retrospective observational analysis of pneumococcal vaccine purchases from January 2017 to December 2019.

Conclusion: A “Did You Pneu?” pneumococcal immunization campaign was developed by a pharmacist at the head office of an independent community pharmacy banner. The campaign consisted of pharmacist educational materials, in-pharmacy marketing materials, and pharmacy operational supports (Figure 1). In November 2018, a month-long in-pharmacy campaign was carried out across the banner. Feedback collected from pharmacists via telephone interviews was used to inform updates to campaign materials for the November 2019 campaign. A convenience sample of ten independent community pharmacies located across Ontario was selected for a retrospective observational analysis of pneumococcal vaccine purchases from January 2017 to December 2019.

Figure 1. “Did You Pneu?” campaign toolkit showing pharmacist educational materials, in-pharmacy marketing materials, and pharmacy operational supports developed and distributed across a banner of independent community pharmacies as part of an adult pneumococcal immunization campaign.