

Fig. 1

Cephalosporins and carbapenem consumption increased both globally (10.88 vs 13.86 DDD per 100 bed days; $P < .001$) and in medical and surgical units (3.26 vs 5.38 DDD per 100 bed days; $P < .001$). This increase was mainly associated with ceftriaxone (3.45 vs 5.46 DDD per 100 bed days; $P < .001$) and meropenem (1.12 vs 3.08 DDD per 100 bed days; $P < .001$). There was a global decrease in the consumption of penicillins (26.10 vs 24.24 DDD per 100 bed days; $P = .012$) and quinolones (11.63 vs 9.61 DDD per 100 bed days; $P = .004$). This trend was observed also in ICUs and medical units but not in surgical units, for which only quinolones showed a significant decrease. Decreases in the use of amoxicillin/clavulanate acid (17.80 vs 14.24 DDD per 100 bed days; $P < .001$) and ciprofloxacin (5.68 vs 4.01 DDD per 100 bed days; $P < .001$) were observed. **Conclusions:** The increase in the use of antimicrobials in Catalonia is concerning. This increase is attributable to the use of these drugs in surgical units. Antibiotic stewardship measures should be aimed primarily at these units. The increasing use of carbapenems should be analyzed.

Funding: None

Disclosures: Juan Pablo Horcajada reports consulting fees from MSD, Pfizer, and Menarini as well as speaker honoraria from MSD, Pfizer, and Zambon.

Doi:10.1017/ice.2020.1181

Presentation Type:

Poster Presentation

Universal Masking to Prevent Nosocomial Respiratory Viral Infections in Malignant Hematology Inpatient Units

Vishnuka Arulsundaram, University Health Network; Kelsey Houston, University Health Network; Elisa Vicencio, University Health Network; Carly Rebelo, University Health Network; Alon Vaisman, Infection Prevention and Control, University Health Network; Susy Hota, University Health Network

Background: Patients with hematologic malignancies are at increased risk for respiratory virus infections (RVIs) and may experience prolonged asymptomatic viral shedding contributing

to transmission. In response to 2 extensive RVI outbreaks in our adult cancer center, a universal masking policy was implemented whereby inpatients on malignant hematology units and their visitors were required to wear procedure masks whenever they were walking outside their rooms. Visitors were required to mask when inside patient rooms. Staff were not included in the policy. Here, we describe the impact of universal masking on the incidence of nosocomial RVI in malignant hematology patients. **Methods:** In this before-and-after study, we examined the effects of universal masking in malignant hematology units of a 170-bed adult cancer hospital in Toronto, Canada, between January 1, 2015, and September 30, 2019. Nosocomial RVI incidence, RVI outbreak descriptions, and hand hygiene compliance rates were collected from hospital infection control databases. Mask utilization was extracted from hospital purchasing records. Staff influenza vaccination rates were obtained from occupational health records. RVI incidence rates before and after the intervention were compared using Wilcoxon rank-sum test. **Results:** The preimplementation phase ran from January 1, 2015, to February 28, 2017, and the postimplementation phase spanned March 1, 2017, to September 30, 2019. Monthly mask utilization on malignant hematology units increased by 105% after implementing the universal masking policy. Nosocomial RVI incidence decreased significantly after implementing the universal masking policy, and the number of cases involved in RVI outbreaks also decreased (Table 1). There was a 14% increase in nasopharyngeal swab orders after implementation. Staff influenza vaccination rates, hand hygiene compliance and infection control policies remained stable throughout the study. **Conclusions:** A reduction in the incidence of nosocomial RVI and number of RVI cases in outbreaks was observed after implementing the universal masking policy. Although we were unable to directly measure compliance with the intervention, increased mask utilization after the intervention implied adherence to the policy. Our experience suggests that universal masking in malignant hematology inpatients may be an effective RVI prevention strategy. Further rigorous study is warranted.

Table 1. Indicators of RVI Transmission Before and After Implementation of Universal Masking Policy on Malignant Hematology Units

Indicator	Before Implementation	After Implementation	P Value
Nosocomial RVI cases, no.	107	80	N/A
Nosocomial RVI ^a incidence (no. of cases per 1,000 patient days)	2.00	1.11	.033
RVI outbreaks, no.	3	2	N/A
RVI cases during outbreaks, no.	23	11	N/A

^aRVIs included influenza A/B, respiratory syncytial virus, metapneumovirus, and parainfluenza 1-4.

Funding: None

Disclosures: Susy Hota reports contract research for Finch Therapeutics.

Doi:10.1017/ice.2020.1182

Presentation Type:

Poster Presentation

Use of a Beta-Lactam Graded Challenge Process at an Academic Medical Center

Andrew Watkins, Nebraska Medicine; Lee Amaya, Beaumont Hospital - Royal Oak; Macey Wolfe, Nebraska Medicine; John Schoen, Nebraska Medicine; Erica Stohs, University of Nebraska Medical Center; Sara May, Nebraska Medicine; Mark Rupp, University of Nebraska Medical Center; Trevor Craig Van Schooneveld, University of Nebraska Medical Center; Bryan Alexander, Nebraska Medicine; Scott Bergman, Nebraska Medicine

Background: A penicillin allergy guidance document containing an algorithm for challenging penicillin allergic patients with β -lactams was developed by the antimicrobial stewardship program (ASP). As part of this algorithm, a “graded challenge” order set was created containing antimicrobial orders and safety medications along with monitoring instructions. The process is designed to challenge patients at low risk of reaction with infusions of 1% of the target dose, then 10%, and finally the full dose, each 30 minutes apart. We evaluated outcomes from the order set. **Methods:** Orders of the graded challenge over 17 months (March 2018 through July 2019) were reviewed retrospectively. Data were collected on ordering and outcomes of the challenges and allergy documentation. Use was evaluated based on ASP-recommended indications: history of IgE-mediated or unknown reaction plus (1) no previous β -lactam tolerance and the reaction occurred >10 years ago, or (2) previous β -lactam tolerance, now requiring a different β -lactam for treatment. Only administered challenges were included and descriptive statistics were utilized. **Results:** Of 67 orders, 57 graded challenges were administered to 56 patients. The most common allergies were penicillins (87.7%) and cephalosporins (38.6%), with the most common reactions being unknown (41.7%) or hives (22%). The most common antibiotics challenged were ceftriaxone (43.9%), cefepime (21.1%), and cefazolin (5.3%). Antibiotics given prior to challenge included vancomycin (48.2%), fluoroquinolones (35.7%), carbapenems (21.4%), aztreonam (19.6%), and clindamycin (12.5%). The median duration of challenged antibiotic was 6 days. The infectious diseases service was consulted on 59.6% of challenges and 75.4% of challenges were administered in non-

ICU settings. There was 1 reaction (1.8%) involving a rash with the second infusion, which was treated with oral diphenhydramine and had no lasting effects. Based on indications, 80.7% of challenges were aligned with ASP guidance criteria. The most common use outside of these criteria was in patients without IgE-mediated reactions (10.5%). Most of these had minor rashes and could have received a full dose of a cephalosporin. Allergy information was updated in the electronic health record after 91.2% of challenges. **Conclusions:** We demonstrated the utility of a graded challenge process at our academic medical center. It was well tolerated, ordered frequently by noninfectious diseases clinicians, administered primarily in non-ICU settings, and regularly resulted in updated allergy information in the medical record. With many patients initially receiving broad-spectrum antibiotics with high costs or increased rates of adverse effects, graded challenges can potentially prevent the use of suboptimal therapies with minimal time and resource investment.

Funding: None

Disclosures: Scott Bergman reports a research grant from Merck. Doi:10.1017/ice.2020.1183

Presentation Type:

Poster Presentation

Use of a Multidisciplinary Incident Command System in Response to Measles Outbreak in Maryland

Taylor McIlquham, Johns Hopkins Hospital; Anna Sick-Samuels, Johns Hopkins School of Medicine; Carrie Billman, The Johns Hopkins Hospital; Jennifer Andonian, The Johns Hopkins Hospital; Melissa Dudley, The Johns Hopkins Hospital; Amyra Husain, Johns Hopkins University; Robert Maloney, Johns Hopkins Medicine; Cagla Oruc, Johns Hopkins Medicine; Mary Brown, Johns Hopkins Medicine; Lisa Maragakis, Johns Hopkins University School of Medicine; Aaron Michael Milstone, Johns Hopkins University

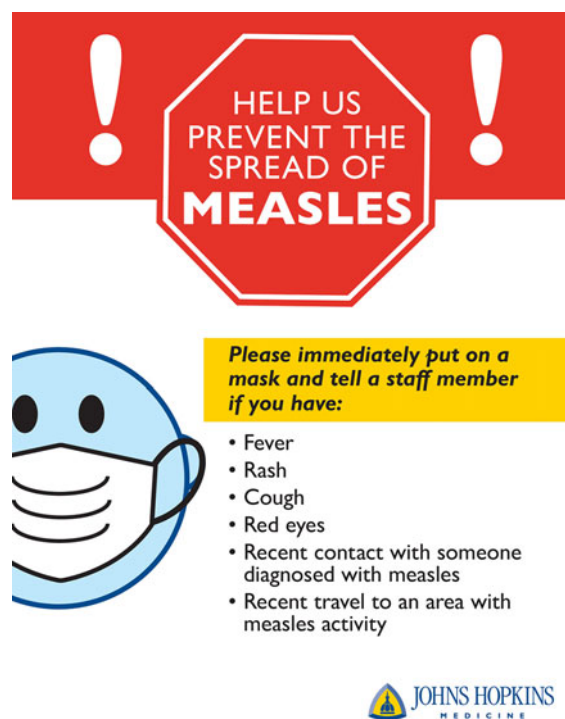


Fig. 1.