## P175

### REDUCING ANTIBIOTIC EXPOSURE DURING PENICILLIN ALLERGY EVALUATIONS IN PREGNANCY

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**Introduction:** Evaluation of pregnant women carrying a penicillin allergy label may reduce risk for adverse events associated with the use of broad-spectrum antibiotics and improve antibiotic stewardship. However, administration of antibiotics during pregnancy may increase post-partum infantile morbidity.
**Methods:** A retrospective study was performed to evaluate pregnant women with a reported history of penicillin allergy who attended an academic allergy clinic over 2.5 years. Women were consented for skin testing. Only those with GBS positivity or other need for penicillin use, would undergo subsequent graded oral amoxicillin challenge.
**Results:** Of the 32 pregnant women patients evaluated, 25 proceeded with skin testing for penicillin allergy, all of which were negative. Eight of the 25 patients had uncomplicated pregnancies and thus were not exposed to penicillin administration throughout the pregnancy (i.e., including oral amoxicillin challenges and treatment purposes). Two received antibiotics prior to completion of a graded-oral challenge as a result of unexpected skin lacerations related to vaginal delivery. Thirteen tested GBS positive and had both skin testing and oral challenge performed followed by penicillin administration during labor. Finally, 2 were lost to follow up prior to delivery.
**Conclusion:** Our penicillin allergy protocol may reduce antibiotic exposure through avoidance of oral antibiotic challenges in pregnant women if they do not have a clear indication for penicillin and may reduce infantile morbidity.

## P176

### RESOURCE UTILIZATION AND COST ANALYSIS OF A PROACTIVE PENICILLIN ALLERGY DE-LABELING PROGRAM FOR LOW-RISK INPATIENTS

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**Introduction:** Penicillin allergy affects approximately 10% of hospitalized patients and is associated with numerous adverse outcomes. Direct oral challenge is a safe, effective way of evaluating patients with low risk of penicillin allergy by history. There is organizational support for proactively assessing penicillin allergy in hospitalized patients. However, resource utilization and costs can impede successful implementation.
**Methods:** We piloted a resident-led penicillin allergy de-labelling program where all inpatients were proactively identified, screened and if deemed low-risk by history administered 250mg amoxicillin with 1-hour of monitoring. We performed a Time-Motion study for patient assessments and applied Time-Driven Activity-Based Costing to determine the variable cost of assessment.
**Results:** Over 2 weeks, we screened 66 new inpatients with penicillin allergy label on their electronic medical record. After exclusions, 28 were appropriate for formal assessment and 14 consented to oral challenge. By incorporating the single-dose challenge into nursing workflow and using resident physician-led assessments (base wage $25.76/h) we were able to minimize challenge-specific variable costs. Screening took 4 minutes ($1.71 per patient), formal assessment took 15 minutes ($6.44 per patient) and an oral challenge was 65 minutes ($27.54 per patient). The estimated total cost of such a program over 1 year at our 550-bed hospital is $17,649.22 in 2021 USD.
**Conclusion:** This study demonstrates a proactive approach including direct oral challenge for low-risk inpatients with penicillin allergy is safe and minimizes the variable cost of allergy assessment. We have identified practical workflow strategies that would permit for low-cost implementation of such programs at other institutions.

## P177

### COVID-19 VACCINE ADVERSE REACTIONS IN HOSPITAL EMPLOYEES

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**Introduction:** Reported adverse reactions (ARs) to Covid-19 vaccine (Cov19V) have been observed in the general population. We sought to characterize vaccine ARs amongst healthcare workers (HCW) in a large multi-site academic medical center. Our Occupational Health devised a voluntary reporting mechanism following Cov19V reactions between December 2020-June 2021. Reactions were classified as immediate if within 4 hours of Cov19V and delayed if beyond. Reaction severity, allergic or non-allergic symptoms, and subsequent recommendations were noted.
**Results:** 464 (0.65%) reports of ARs were received among 71,281 vaccine doses. 250 (53.9%) occurred after the first dose and 149 (12.9%) after the second dose. 136 reactions were to Moderna, 298 to Pfizer, and 2 to Janssen vaccination. Most ARs were not allergic in nature (n=356, 76.7%), 57 (12.3%) were deemed allergic, while 51 (11.0%) could not be determined. The majority of ARs were immediate (66.8%) [mild (22.0%), moderate/severe (44.8%)]. 26.7% had delayed reactions [mild (8.0%), moderate (13.6%), severe (5.2%)]. 60 ARs (12.9%) required emergency room transfer. No significant differences were found between Pfizer and Moderna vaccines for increased likelihood of allergic reactions.
**Conclusion:** Our triage questionnaire was an efficient mechanism to capture ARs to Cov19V in an occupational setting. ARs were extremely rare and non-allergic reactions were reported more often, consistent with previous reports. Both immediate and delayed reactions are moderate to severe. Our study is limited due to the self-reported nature, the likelihood of not reporting mild or non-allergic reactions and being limited to HCW in one large institution. Follow-up studies may require more general screening.

### Rhinitis, Other Upper Airway Disorders

## P180

### A STICKY SITUATION: CASE SERIES OF SUCCESSFUL TREATMENT OF GLUE EAR OTITIS WITH DUPILUMAB

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**Introduction:** Dupilumab, a monoclonal antibody that binds and inhibits the interleukin-4 receptor alpha subunit, is FDA approved for use in atopic dermatitis, asthma, and chronic rhinosinusitis with nasal polyposis. Currently, it is being investigated for treatment of conditions associated with eosinophilic inflammation. We present a case series of three patients with allergic rhinoconjunctivitis and recurrent episodes of glue ear otitis who had promising therapeutic relief with use of dupilumab. Patients had a multi-year history of chronic glue ear otitis with numerous medical and surgical interventions without resolution, including near systemic steroid dependence. While presence of eosinophilic inflammation was not diagnostically proven in these cases, treatment with dupilumab demonstrated positive outcome.
**Method:** A retrospective study assessed data from three patients, including comorbidities, duration of recurrent chronic glue ear otitis, relevant diagnostic studies, medical and surgical interventions.
**Results:** After a minimum of three doses of dupilumab, all patients reported subjective improvement with decreased ear drainage and improved hearing. Fewer episodes of glue ear otitis were reported and none of the patients required treatment with systemic steroids.