Mepolizumab Does Not Prevent All Aspirin-Induced Reactions in Patients with Aspirin-Exacerbated Respiratory Disease: A Case Series

Hannah Martin1, Nora Barrett, MD FAAAAI2, Tanya Laidlaw, MD FAAAAI1, 1Brigham and Women’s Hospital, 2Brigham and Women, 3Harvard Medical School.

RATIONALE: Aspirin-exacerbated respiratory disease (AERD) is a triad including nasal polyposis, asthma, and NSAID sensitivity. The effects of anti-IL-5 treatment on the severity of aspirin-induced reactions are unknown.

METHODS: This was a retrospective chart review of patients with AERD in our clinic who had undergone aspirin desensitization while on treatment with mepolizumab.

RESULTS: Two Caucasian females and one black female, ages 38-49, with AERD and previously reported respiratory reactions to NSAIDs, underwent oral aspirin desensitization after being treated with mepolizumab for 3-13 months. The patients’ AERD had been diagnosed 2-25 years prior with 1-2 sinus surgeries prior to the desensitization. Patient #1 developed an aspirin-induced reaction that consisted of nasal congestion, headache, itching, and rhinorrhea with a drop in FEV1 of 12% (baseline of 1.81L). Patient #2’s aspirin reaction consisted of wheezing on lung exam with no change in her baseline FEV1 of 1.84L and the development of hives and pruritus of her upper body. Patient #3’s aspirin reaction consisted of pruritis, nasal congestion, wheezing on lung exam with a drop in her FEV1 of 11% (baseline of 2.22L), and protracted severe abdominal pain and vomiting, for which IM Epinephrine was administered and a tryptase, drawn 7 hours after the onset of symptoms, was 19 ng/ml.

CONCLUSIONS: Based on this case series, we conclude that patients with AERD who are on anti-IL-5 treatment with mepolizumab can still develop aspirin-induced reactions, including severe and systemic symptoms. Further controlled research is warranted to determine if anti-IL-5 treatment may lessen or change the reaction symptoms.

Outpatient Preoperative Penicillin Allergy Testing in Cardiac Surgery Patients

Jessica Plager1, Christian Mancini, BS1, Erica Shenoy1, Serguei Melnitchouk, MD1, Laura Collier1, Aleena Banerji, MD FAAAAI, Nivedita Chaudhary, MPH2, Sharmitha Yerneni1, Kimberly Blumenthal, MD MSc FAAAAI1, 1Massachusetts General Hospital, 2Brigham and Women’s Hospital.

RATIONALE: Cefazolin is the first-line prophylactic antibiotic used to prevent surgical site infections (SSIs) in cardiac surgery. Patients with a documented penicillin allergy often receive less effective second-line antibiotics, such as vancomycin, which increases SSI risk. We aimed to describe the impact of preoperative penicillin allergy evaluation on perioperative cefazolin use in cardiac surgery patients.

METHODS: We identified patients who underwent cardiac surgery at the Massachusetts General Hospital (9/2015-12/2018). We assessed penicillin allergy documentation and testing frequency; for patients who underwent allergy testing for penicillin allergy testing, we described true penicillin allergy status and perioperative antibiotic choice.

RESULTS: Of 3,802 cardiac surgery patients (43% coronary artery bypass), 592 (16%) had a documented penicillin allergy preoperatively. Among 132 (22%) patients preoperative penicillin allergy tested, the most common penicillin reactions were rash (38%), urticaria (27%), and “unknown” (17%); 4 patients (3%) had anaphylaxis histories. 127 (96%) patients had their penicillin allergy disproved. Although no patient had a positive skin test, 4 (3%) had non-anaphylactic immediate amoxicillin challenge reactions and 1 (1%) patient developed a minor delayed reaction. Most patients (93%) received perioperative cefazolin; 4 patients (3%) with disproved penicillin allergy received perioperative vancomycin because of concomitant cephalosporin allergy (n=2), methicillin-resistant Staphylococcus aureus colonization (n=1), and erroneous allergy relabeling (n=1).

CONCLUSIONS: Integrating penicillin allergy testing into routine preoperative care for cardiac surgery patients is safe and increases first-line antibiotic prophylaxis. To maximize the effectiveness of preoperative penicillin allergy testing as a method for reducing SSI risk, improved allergy referral operations, and precise allergist antibiotic recommendations, are indicated.

Optimal dose for acetylsalicylic acid provocation test for an accurate diagnosis of nonsteroidal anti-inflammatory drugs hypersensitivity

Natalia Perez-Sanchez1, Francisca Gomez Perez2, Raquel Jurado Escobar, Resercher1, Maria Auxiliadora Guerrero2, Jose Cornejo-Garcia4, Cristobalina Mayorga, PhD3, Maria Torres Jaen, MD PhD FAAAAI1, Inmaculada Doña2, 1Allergy Unit, Regional University Hospital of Malaga-IBIMA, Universidad de Malaga. Malaga, Spain, 2Allergy Unit. Regional University Hospital of Malaga-IBIMA, Malaga, Spain, 3Allergy Research Group, Instituto de Investigación Biomédica de Málaga-IBIMA, Universidad de Málaga, Malaga, Spain, 4Allergy Research Group, Instituto de Investigación Biomédica de Málaga-IBIMA, Malaga, Spain.

RATIONALE: Cross reactive (CR) nonsteroidal anti-inflammatory drugs (NSAIDs) hypersensitivity is induced by a pharmacological mechanism, being the reactions dose dependent. Therefore, there is controversy regarding if tolerance in drug provocation test (DPT) with a total accumulate dose of 500mg of acetylsalicylic acid (ASA) is optimal to exclude CR hypersensitivity. Our aim was to evaluate if doses higher than 500mg of ASA in DPT are necessary to exclude CR hypersensitivity.

METHODS: We randomly selected patients confirmed as selective responders (SRs) to multiple NSAIDs (Group A) and as SRs to arylpropionic acid derivatives (AP) manifested as isolated palpebral/facial angioedema (AE) (Group B) (all patients reacted with the culprit(s) and tolerated ASA 500mg in DPT). In this study we performed DPTs achieving 1000mg of ASA, followed by a two-day course of 1000mg/8h at home.

RESULTS: We included 11 patients: 2 from group A and 9 from group B. The median age was 38.27 year-old; 7 patients were females. Group A patients reacted to the culprit(s) in DPT and developed immediate urticaria (one reacting to paracetamol and metamizole and the other one to paracetamol and ibuprofen). Both tolerated ASA 500mg. Group B patients reacted to the culprit(s) and tolerated ASA 500mg in DPT. In this study we performed DPTs achieving 1000mg of ASA, followed by a two-day course of 1000mg/8h at home.

CONCLUSIONS: 500mg of ASA is an optimal dose to exclude CR hypersensitivity, including these less frequent phenotypes.