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

Hannah Martin[1], Nora Barrett, MD FAAAAI[2], Tanya Laidlaw, MD FAAAAI[3]; [1]Brigham and Women's Hospital, [2]Brigham and Women, [3]Harvard 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 pruritus, 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.

282 Outpatient Preoperative Penicillin Allergy Testing in Cardiac Surgery Patients

Jessica Plager[1], Christian Mancini, BS[1], Erica Shenoy[1], Serguei Melnitchouk, MD[1], Laura Collier[1], Aleena Banerji, MD FAAAAI[1], Nivedita Chaudhary, MPH[2], Sharmitha Yerneni[1], Kimberly Blumenthal, MD MSc FAAAAI[1]; [1]Massachusetts General Hospital, [2]Brigham 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 allergist referral 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.

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

Natalia Perez-Sanchez[1], Francisca Gomez Perez[2], Raquel Jurado Escobar, Reserecher[3], Maria Auxiliadora Guerrero[2], Jose Cornejo-Garcia[4], Cristobalina Mayorga, PhD[4], Maria Torres Jaen, MD PhD FAAAAI[1], Inmaculada Doña[2]; [1]Allergy Unit, Regional University Hospital of Malaga-IBIMA, Universidad de Málaga, Malaga, Spain, [2]Allergy Unit, Regional University Hospital of Malaga-IBIMA, Malaga, Spain, [3]Allergy Research Group, Instituto de Investigación Biomédica de Málaga-IBIMA, Universidad de Málaga, Malaga, Spain, [4]Allergy 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 culprits in DPT and developed immediate urticaria (one reacted to paracetamol and metamizole and the other one to paracetamol and ibuprofen). Both tolerated ASA 500mg. Group B patients presented a median of 2.8 episodes (IR: 2-5) to ibuprofen and/or naproxen and were diagnosed by DPT (they reacted to the culprit and tolerated ASA 500mg). All patients from both groups tolerated DPT with ASA 1000 mg and the two-day course at home.

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

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