863 The Penicillin Skin Test has a High Negative Predictive Value and Helps to Modify the Use of Antibiotics in Patiens with History of Beta-Lactam Allergy

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RATIONALE: To determine the safety and utility of Penicillin Skin Test (PST).

METHODS: Retrospective chart review of 460 cases coded as "Drug allergy" by ICD-9 from April 1998 to January 2004. PST was done with Prepen and penicillin G.

RESULTS: Adverse reactions to Beta-Lactams were documented in all of these cases. Demographics: 45.7% were male; mean age: 50.0 +/- 26.1 years; 20.7% were < 18 years of age; 23.7% were evaluated at the Intensive Care Unit (ICU), 52.6% at in-patient (IP) and 23.7% at out-patient (OP) settings. 22.7% were on Beta-blockers, 8.3% on ACE-inhibitors and 8.9% on antihistamines. The antibiotics more commonly used were: ciprofloxacin in 165 patients (35.9%) and vancomycin in 172 patients (37.4%). PST were performed by allergists: 407 (88.5%) had negative PST, 35 (7.6%) were positive, 16 (3.5%) were inconclusive. 2 patients were not tested due to history of Stevens Johnson's. Oral or IV challenges were done in 46 patients (10%). There were 8 (1.7%) desensitizations in positive PST patients. Of the 407 patients with negative PST, 217 (53.3%) were changed to penicillin, cephalosporin or monobactam: 12 (12.5%) at OP, 137 (63.7%) at IP and 68 (70.8%) at ICU settings. Of patients changed, 3 (1.4 %) developed hives, rash or pruritus. The Negative Predictive Value of PST for IgE mediated events (eg anaphylaxis) is 98.6%.

CONCLUSIONS: PST is a useful, safe and reliable method with a high Negative Predictive Value in the evaluation of patients with history of penicillin allergy. The PST helps to modify the antibiotic management in hospitalized patients.

864 Drug Provocation Test (DPT) in Patients with a History of Macrolide Allergy

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RATIONALE: Increasing number of reactions to macrolides are reported in children. Unfortunately, there is no reliable skin test to diagnose macrolide allergy.

METHODS: We analyzed the clinical data of patients with suspected macrolide allergy who underwent a DPT in our clinic between December 2003 and February 2005. The DPT consisted of 3 graded doses of oral Clarithromycin or Azithromycin.

RESULTS: Fifty-seven patients were referred for possible macrolide allergy and most were offered to undergo an open DPT. Forty-four patients participated. A total of 46 challenges were done: 35 with the culprit antibiotic (22 Clarithromycin, 13 Azithromycin) and 11 with another macrolide (7 Clarithromycin, 4 Azithromycin). Two patients were challenged to both drugs. Mean age was 6.6 years old (range 1-12 years). Forty patients remembered the time interval since their reaction: 70% had their reaction within the last 3 years. Forty-five percent of patients initially reacted within the first 48 hours of treatment, 39% between day 2 and 4 of treatment. Reported reactions were only cutaneous in 40 patients (11 maculo-papular rash, 27 urticaria, 2 angioedema), respiratory in 1 and gastro-intestinal in 3. Three patients (6.8%) reacted to the DPT, 2 to the culprit antibiotic, and 1 to another macrolide. All reactions happened within the first hour following the last dose and none was severe (1 maculo-papular rash, 1 urticaria, 1 limited vomiting).

CONCLUSIONS: It is safe to perform a DPT in children with history of reaction to macrolide. Most cases of suspected macrolide hypersensititvity are probably not true allergy.

865 Management of Anaphylaxis from the Neuromuscular Blocking Agent Rocuronium Bromide: Can We Go with the Flow

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RATIONALE: To assess whether flow cytometric analysis of in vitro activated basophils constitutes a helpful instrument in the diagnosis of anaphylaxis from rocuronium. To investigate whether the technique might be useful to identify cross-reactive compounds and to tailor individual safe neuromuscular blocking regimens.

METHODS: Thirteen patients with a history of rocuronium-induced anaphylaxis demonstrating a clear positive skin test for this drug and 7 controls with uneventful administration of rocuronium and a negative skin test for this drug were enrolled. Basophil activation with rocuronium, vecuronium, atracurium, cisatracurium and suxamethonium was analysed flow cytometrically by triple labelling with anti-CD123/anti-HLADR/anti-CD63.

RESULTS: Sensitivity and specificity of the basophil activation test (BAT) for rocuronium was 77% and 100%, respectively. The BAT with vecuronium was positive in 7/11 patients with anti-IgE responsive basophils and generally paralleled skin test responsiveness to this drug. According to a positive skin test and/or positive BAT, cross-reactivity between rocuronium and vecuronium was demonstrable in 75% of the patients. Two patients showed a positive skin test and BAT for suxamethonium. All patients, except 1 with a positive prick test for atracurium, demonstrated negative skin tests and BAT for atracurium and cisatracurium,. In controls, no skin test responsiveness and no clear basophil activation was found for suxamethonium, atracurium and cisatracurium. Currently, 5 patients have tolerated iv administration of cisatracurium.

CONCLUSIONS: The BAT constitutes a sensitive and specific safe tool to diagnose anaphylaxis from rocuronium. Moreover, the technique allows quick and simultaneous testing of different potential cross-reactive muscle relaxants and to tailor a safe alternative.

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866 Use of Beta Blockers does not Affect the Performance of Penicillin Skin Testing

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RATIONALE: A cautious attitude has been recommended when skin testing is performed in patients taking beta-adrenergic blockers (BB) because systemic reactions may occur and are more difficult to treat. We report our experience in 104 patients that underwent penicillin skin testing (PST) while on BB.

METHODS: Retrospective chart review of 460 cases coded as "Drug allergy" by ICD-9 from April 1998 to January 2004. PST was done with Prepen and penicillin G by allergy fellows in training supervised by an Allergy Staff.

RESULTS: 104 (22.7%) of patients were on BB at the time of PST, 45.2% were male, the mean age was: 67.8 +/- 11.7 years. All patients were hospitalized and 29.8% were evaluated at the Intensive Care Unit; 18.3% were intubated. Other medications besides the BB were ACE-inhibitors (18.3%) and antihistamines (11.5%). None of these patients were wheezing. Patients on BB were more likely to be changed to a Beta-lactam drug (60.6%) vs. patients not receiving BB (47%, P=0.0158). There were no differences between the patients on BB vs. off BB regarding results of PST, side effects after Beta-lactam drugs were started if the PST was negative, hypotension (defined as a drop of >10 mmHg systolic and/or >20 mmHg diastolic) at one hour and 24 hours after PST or heart rate [86.78 +/- 21.12 beats per minute (bpm) on BB vs. 87.71 +/- 15.58 bpm without BB].

CONCLUSIONS: The use of PST and administration of beta-lactam drugs in patients on BB was safe.