

Utilizing Oral Food and Drug Challenges

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Background

- Many patients live with the mistaken belief that they have a serious allergy to certain foods or drugs.
- Approximately 10% of the US population has been labeled as allergic to penicillin and approximately 8 % of children in the US have been diagnosed with a food allergy.
- Diagnosis often occurs from clinical history, skin prick test, or IgE levels with very low specificity.
- 75% of children labeled as allergic to penicillin obtain the label before they turn three. Over 75% of those receive the label from minor symptoms that may be nothing more than viral exanthem.
- Only 0.1% of patients labeled as allergic to penicillin will ever undergo evaluation for delabeling.
- Less than 5% of those labeled as allergic to penicillin can be confirmed by direct challenge.
- Less than 15% of those diagnosed with food allergy

Methods

A retrospective review of recent research was performed focusing on studies that reviewed the results of penicillin direct challenges and the results of oral food challenges.

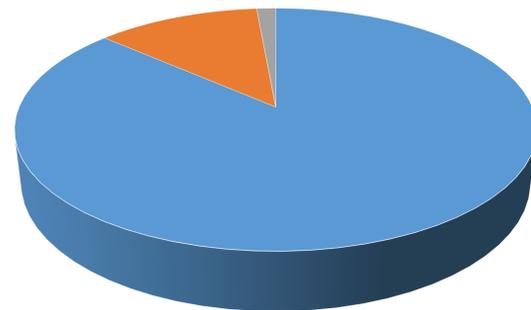
Consequences

- The mistaken belief of an allergen can have a significant impact on the lives of patients and their families.
- Inaccurate penicillin allergy label has been associated with increase risk of adverse events, risk of resistant organisms, increased length of hospital stay, increased costs, and decreased cure rates.
- Inaccurate food allergy diagnosis increases healthcare costs, decreases quality of life, and can lead to nutritional deficiencies.
- Pediatric food allergy cost of \$25 billion annually.

Direct Challenges

- An extremely high percentage of patients that undergo a direct challenge (either oral food challenge or drug direct challenge) learn that they do not have a current allergy.
- Recent research found that, of 6,377 patients who underwent an oral food challenge, only 14% had a reaction to the allergen and a mere 2% experienced anaphylaxis. (Figure 1).
- As such, more than 85% of those patients could be de-labeled for food allergy by direct challenge.

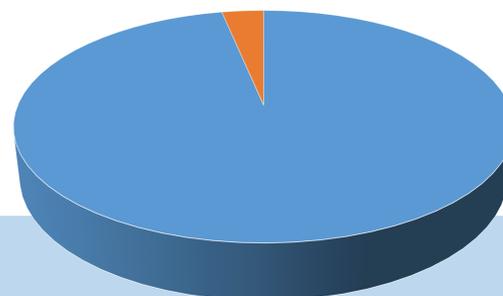
Figure 1: Oral Food Challenge Outcomes



■ No reaction ■ Some Reaction ■ Anaphylaxis

- The traditional approach to delabeling patients for penicillin allergy was through skin prick test, which had a reaction rate of 12.5%.
- Recent research found that direct challenge to penicillin resulted in reactions in 3.8% of patients. (Figure 2).
- Penicillin direct challenge is also more efficient. Direct challenge costs less and can be performed faster than skin prick testing.

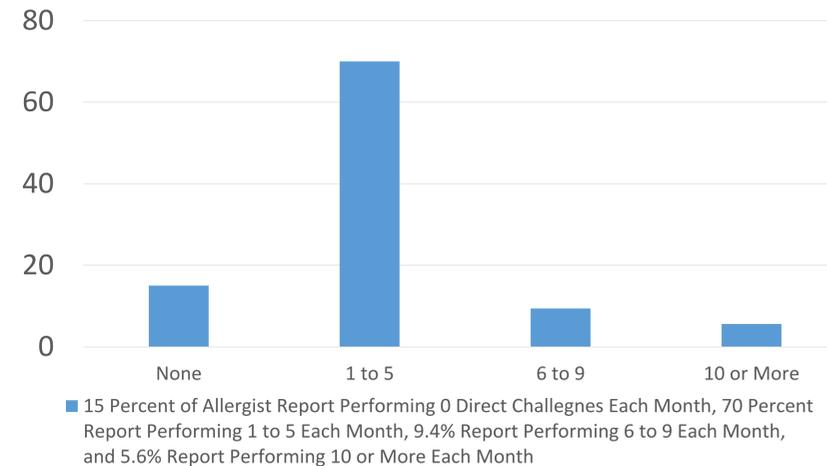
Figure 2: Penicillin Direct Challenge Outcomes



■ No Reaction ■ Positive Reaction

Access to Care

Figure 3: Monthly Direct Food Challenges Performed by Allergists (by percentage)



- Very few providers offer oral challenges and those that do offer often perform a very limited number of direct challenges.
- Although 85% of allergists report that they do offer some form of direct challenges, 70% of allergists perform less than 5 direct challenges per month and only 5.6% of allergists perform more than 10 direct challenges per month. (Figure 3).
- Current recommendations indicate that performing a direct challenge within a year of diagnosis of an allergy can reduce costs associated with the allergy and improve quality of life.
- On average, patients that undergo a direct challenge are waiting 35.5 months before a challenge is performed.
- Research indicates that allergist may choose not to perform direct challenges because of perceived risk, time constraints, reimbursement concerns, and a fear that they are inadequately prepared to manage significant reactions.
- Practice workshops and training sessions through professional organizations may improve the comfort level of providers and improve efficiency in performing challenges.

Poster Details

Abstract title: Utilizing Oral Food and Drug Challenges

Primary Funding Mechanism: Self Funded

Conclusions

- Direct challenges such as oral food challenges and drug direct challenges are very often negative and lead to the de-labeling of suspected allergies.
- Direct challenges performed by experienced providers are safe, effective, and time efficient.
- True antibiotic allergy is actually rare, and every effort should be made to de-label a drug allergy in appropriate low-risk patients
- These challenges are cost-effective and can have a tremendous positive impact on the quality of life of patients and their families
- Very few providers offering direct challenges, wait times for these procedures are extremely long.
- Nurse Practitioners can help expand access to care by expanding their training to offer the procedure or through early recognition and referral of low-risk patients.

References

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