Sublingual Immunotherapy for Peanut Allergy
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Rationale

Food Allergy Prevalence
- Food allergy affects 8% of US children¹ and prevalence increasing²
- Approximately 40% of food allergic children in the US have suffered at least one severe food-induced reaction¹
- Treatment options for allergic children are limited
- Standard practice for individuals with food allergy is to avoid their allergen at all costs³

Sublingual Immunotherapy Protocol
- Clinic treats patients with environmental and food allergy with sublingual immunotherapy standard protocol
- Treatment consists of threshold dose of allergen adjusted to dilution based on skin/blood test results
- Doses self-administered 3 times/day via metered-dose pump bottle
- Treatment contains all allergens to which patient is sensitized to address total load

Study Objective

The objective of this study was to describe the clinical and caregiver-reported outcomes for pediatric patients with peanut allergy undergoing SLIT between 2006 and 2015.

Research Methodology

- 121 pediatric patients with peanut allergy included in clinical record review
- Between ages of 2-18 with ≥3 peanut specific IgE (PsIgE) values between 2006-2015
- Caregiver surveys distributed to all included families through clinic’s patient portal
- Survey examines accidental exposure to allergen, Quality of life, and experience with SLIT since beginning treatment
- Clinical and survey results analyzed for trends

Results

Retrospective Chart Review
- Patients ranged from 2-18 yrs old (Mean age = 8.5) were predominantly male (63%) and White (80%).
- Mean PsIgE at baseline was 95.67 (SD = 140.35)
- Positive results for Peanut Ara h 2 (≥0.35) seen in 93% of patients
- 45% of patients showed decrease in PsIgE over course of analysis
  - Of those who decreased mean overall drop was 42.2kU/L (SD= 57.38).

Survey Respondents
- 73 patients responded to the survey (60% response rate)
  - 88% self-reported severe peanut allergy
  - 22 respondents reported accidental exposures since beginning SLIT (31%)
    - 13.6% of accidental exposures treated with epinephrine
    - 27% of accidental exposures resulted in ED visits
    - 0 hospitalizations or ICU admissions
  - Daily compliance reported by 92%
  - Resistance to taking the drops from children was minimal (81% report none & 15% report occasional)

Comorbidities

Quality of Life

SLIT Calmed Parent Anxiety about Peanut Allergy (n=73)
- Improved a lot 85%
- Improved a bit 15%
- No change 0%
- Worse 0%
- Unsure 0%

SLIT Minimized Fear of a Reaction (n=72)
- Most likely 33%
- Likely 31%
- Probably not 22%
- Uncertain 1%
- Definitely not 1%

Would do SLIT over again (n=71)
- Definitely 79%
- Most likely 18%
- Unsure 3%

Conclusions and Future Directions

Conclusions
- SLIT is a potentially beneficial treatment for children with food allergy
- Less invasive and more feasible than other currently available treatments
- Caregivers reported high level of adherence to SLIT
- Caregivers reported high level of satisfaction with treatment and improvement in comorbidities and quality of life
- Almost all participants would undergo treatment again

Future Directions
- Examine trends in lab values over the course of treatment associations between survey responses and clinical data
- Associations may indicate ideal candidates for successful SLIT treatment for peanut allergy
- Second study in progress to examine SLIT treatment of other food allergens
- Expand clinic capabilities to allow food challenges and conduct RCT with SLIT protocol

Limitations
- Patient population is predominantly white and not nationally representative
- Clinic not set up to perform food challenges to determine baseline or acquired tolerance

Acknowledgements

- Thank you to Cheng Her for technical support in collection of the clinical patient and survey data...
- Funding provided by Food Allergy Research and Education (FARE)

References