

Sublingual Immunotherapy

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Food Ladders

(nothing to do with SLIT)

Loosely defined concept of eating a food in incremental steps of potency

Baked Milk-Egg Process

- Patient selection
- OFC or home introduction
- Recommendations for ongoing diet
- Progression of diet, 'ladder'

Baked Food Reactors

- Avoidance
- Baked food OIT
- Milk/egg OIT

Food Ladders



Advantages of ladder

- Liberalize diet
- Nutritional benefit
- Improved QOL
- Accelerate full tolerance*

AAAAI survey

- n=72
- 69/72 offer BM/BE introduction
- 75% recommend regular eating BM/BE

*Yes: Pediat Allergy Immunol 2019;30:824-32 / JACI 2012;130:473-80 / JACI 2011; 128:125-31

No: WAO Journal 2017;10:22-26

SLIT: where's it fit?



- A 'ladder' to OIT
- Salvage treatment after failed OIT
- Stand alone desensitization
- A waste of time, too weak



Literature review

The science behind SLIT

- 11 kids peanut SLIT + 7 placebo
- 6 mo buildup, 6 mo maintenance (2 mg pp)
- No epi use
- 1 yr OFC: 1700 mg pp median cumulative dose
vs 85 mg placebo

Kim EH. J Allergy Clin Immunol 2011;127:640-6

Milk SLIT vs OIT



- 6-17 y.o. 10 SLIT (7 mg), 20 OIT (1/2 1 gm, 2 gm)
- OFC at 60 wks to 8 gm milk protein
- 1/10 SLIT passed, 14/20 OIT passed
- Median increase OFC threshold 40-fold for SLIT (3 ml to 120 ml)



Peanut SLIT

- 20 SLIT vs 20 placebo, 12-40 yo (tough crowd)
- 42 wks buildup, 2 wks M 1.4 mg pp, then OFC
- Epi used once
- OFC 2.5 gm (10 nuts), none passed

Yet, median dose went from 3.5 to 496 mg pp

Fleischer DM. J Allergy Clin Immunol 2013;131:119-27

CoFAR 3 year f/u



- placebo patients (20) x-over to 3.7 mg pp SLIT
- high drop rate (annual OFC's), 14/40 remained, no Epi
- 3rd year OFC 5 gm peanut protein
- 2/5 high dose passed, 2/9 1.4 mg dose passed



Peanut SLIT vs OIT

- n=21, 7-13 y.o. (5 d/c 1st year, 4 in OIT group)
- SLIT 3.7 mg pp (n=10), OIT 2 gm/day (n=11)
- Epi in 4 OIT pts (36%), none in SLIT
- OFC 1 yr on M: 141-fold↑ threshold OIT, 22-fold SLIT (21 mg pp to 496)

Long term peanut SLIT



- 3-5 years of 2 mg peanut protein SLIT
- 37/47 completed (79%), 1-11 y.o., 2 dropped GI sx.
- No epi
- OFC to 5 gm pp, 32% passed, 86% ate \geq 750 mg

Unanswered Questions



- Build up, why slow?
- Maintenance dose, 2- 4 mg?
- If transitioning to OIT, how?

SCIT buildup

SLIT (e.g. Odactra)

1:1,000 0.1 / 0.2 / 0.4	
1:100 0.1 / 0.2 / 0.4	
1:10 0.05 / 0.1	
1:10 0.15 / 0.2	
1:10 0.3 / 0.4	1 tablet
1:1 : 0.05	
1:1 : 0.1	
1:1 : 0.15	
1:1 : 0.2	
1:1 : 0.3	
1:1 : 0.4	
1:1 : 0.5	

Cashew SLIT Protocol

Visit	Dilution of cashew milk	Dose	Reaction	cashew protein/dose (mg)
1	1:1,000	0.05		0.0008
		0.1		0.0017
		0.15		0.0025
		(0.2 at home)		0.003
2	1:100	0.05		0.008
		0.1		0.017
		0.15		0.025
		(0.2 at home)		0.03
3	1:10	0.05		0.08
		0.1		0.17
4	" "	0.15		0.25
		0.2		0.33
		(0.25 at home)		0.42
5	neat	0.05		0.84
6	(16.7 mg/ml)	0.1		1.67
7		0.2		3.3
		(0.25,0.3 home)		4.2 > 5



Real Food SLIT - Max Dose*

Off the shelf

Milk – 10 mg

Egg white liquid – 33 mg

Cashew milk – 5 mg

Walnut milk – 3.8

Flour solutions

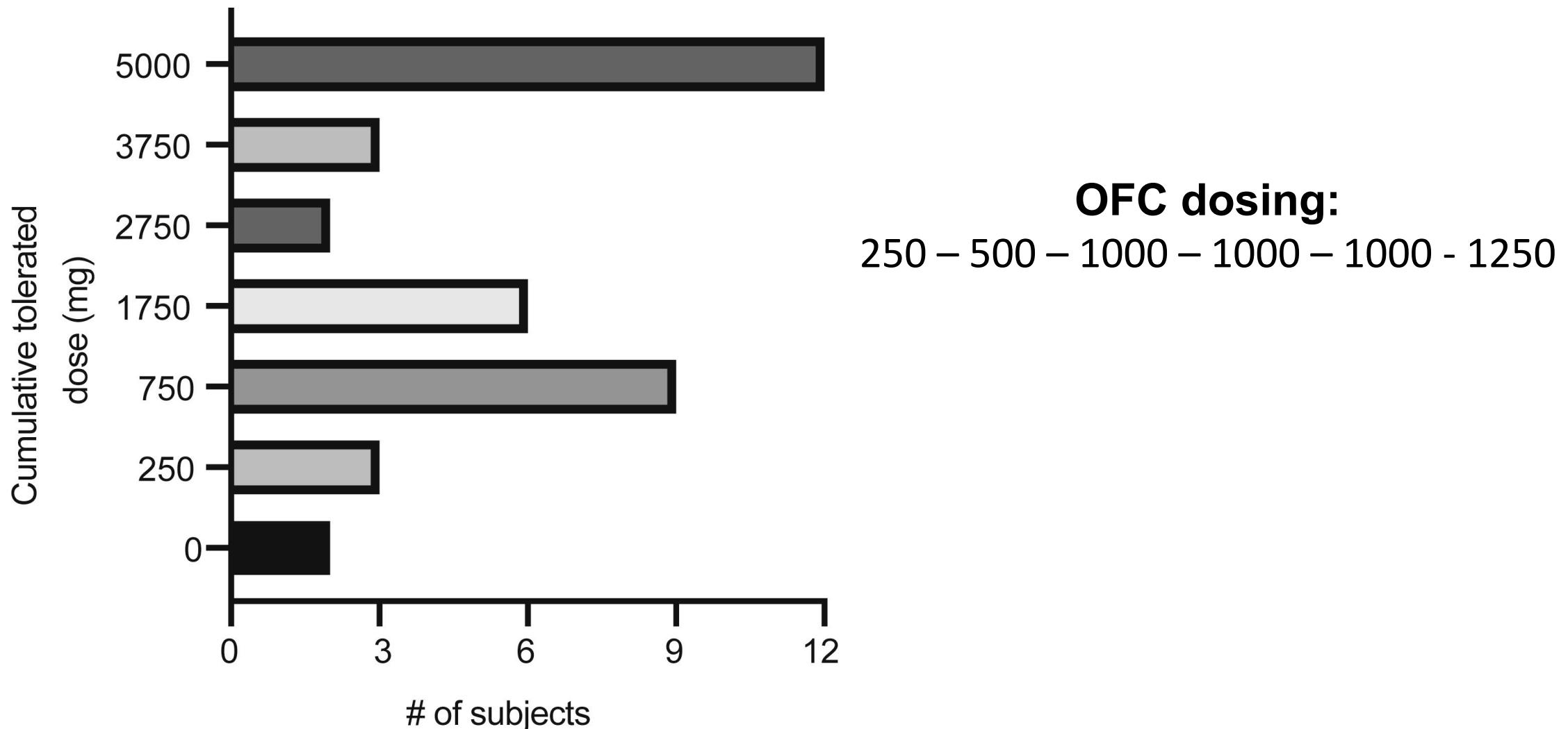
Peanut 40 mg/ml – 6 mg

Sesame 25 mg/ml – 4.5 mg

Wheat VWG 25 mg/ml – 5.8 mg

*based on 0.3 ml from syringe, 6 drops from 0.05 ml dropper bottle

Transition to OIT



What happened to this study?

- 55 1-11 y.o. peanut allergy (+ OFC 0-425 mg, median 0), early report of 1st 14 pts.
- 4 mg peanut protein open label SLIT x 4 years
- OFC to 5 gm pp, median cumulative dose 2900 mg (800-5000)

SLIT vs. OIT Considerations



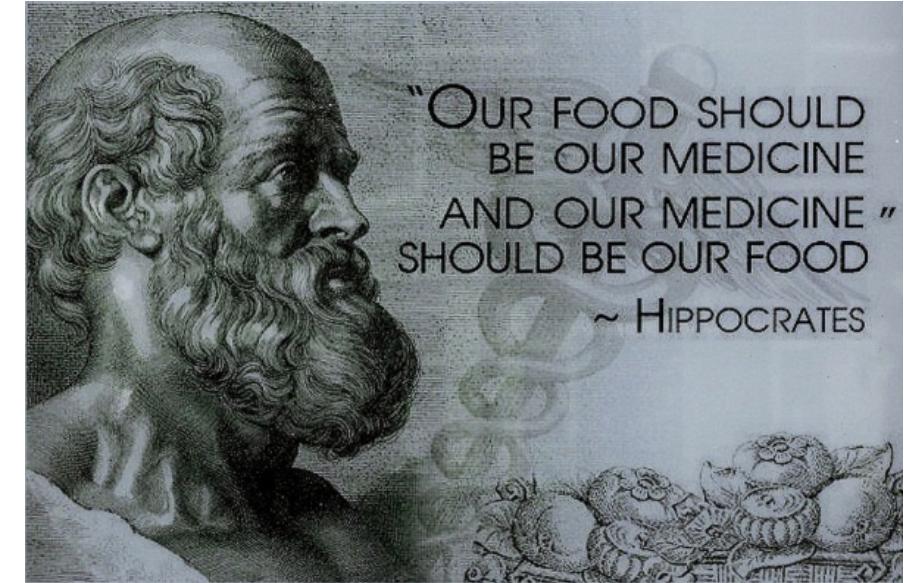
SLIT

- Scary allergic patient
- Non-stop busy
- Long distance, less \$
- ELORS, EoE

OIT

- Staple foods
- Free eating
- Seeing is believing
- Now, or later

Do No Harm



Israeli study

- 1,270 OIT patients
- 2010-18
- Buildup epi 15.7%

Infant study

- 69 Canadian infants
- 383 preschoolers
- Buildup epi 1.6% vs 7.3%

SLIT: Finding the right place

6 months to 5 years old → Never, OIT Rocks!

6 to 12 years old → Maybe here

Teens and beyond → Definitely here

Summary



- OIT is not the end, just the beginning
- SCIT candidates have options, so should food allergy patients
- Embrace change, remain flexible – for the sake of our patients