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Real-world experience of pediatric patients treated with peanut (*Arachis hypogaea*) allergen powder-dnfp

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ABSTRACT

Background: Peanut (*Arachis hypogaea*) allergen powder-dnfp (PTAH) is the first oral immunotherapy indicated for children aged 4 to 17 years with peanut allergy. There are limited real-world data on patients treated with PTAH.

Objective: To characterize pediatric patients treated with PTAH and associated treatment patterns in US clinical practice.

Methods: US-based physicians with allergy and immunology training treating patients with peanut allergy aged 4 to 17 years with PTAH were recruited from an existing physician panel and completed an online case report form (October to December 2021) with data abstracted from patient medical charts. Physician practice circumstances, patient characteristics, and PTAH treatment patterns were reported. Time to reach the 300-mg dose and treatment persistence were assessed using Kaplan-Meier analysis.

Results: A geographically balanced sample of 43 physicians contributed data for 118 demographically diverse pediatric patients. Patients had heterogeneous diagnostic test results, with a wide range of peanut-specific immunoglobulin E levels; 6.8% received an oral food challenge. During the updosing phase, there were no temporary interruptions and 5.1% of the patients required downdosing. Patients reached the 300-mg dose at a median of 21.3 weeks post-initiation. The rate of PTAH persistence at 24 weeks was 93.4%. Only 1 patient discontinued treatment because of treatment-related systemic allergic symptoms, and the remaining discontinuations were for reasons other than treatment-related symptoms. Prophylactic antihistamines were used by 33.9% of the patients to prevent PTAH adverse effects.

Conclusion: PTAH was prescribed in demographically diverse patients with a wide range of peanut-specific immunoglobulin E levels. Treatment persistence with PTAH was high in this study population, with a small number of patients experiencing treatment modification.

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Introduction

Peanut allergy affects 1.25 million (2.2%) children aged 4 to 17 years in the United States, and this prevalence has been increasing in the past 2 decades.[1,2] Peanut allergy typically starts in childhood and persists into adulthood in approximately 70% to 80% of cases, unlike other food allergies that usually resolve in childhood or adolescence.[3-5] Diagnosis of peanut allergy involves skin or blood tests and confirmation of clinical symptoms indicative of allergy.[6,7] Oral food challenges (OFCs) may be used to confirm the diagnosis.[6] With the daily risk of accidental exposure to peanuts that could lead to life-threatening anaphylaxis, patients and their families must be diligent about reading food labels, modifying meals, and taking extra precautions around food while at home, school, restaurants, and social events alike.[3,8] Accordingly, peanut allergy is associated with a substantial burden to patients and their families, negatively affecting health-related quality of life and resulting in significant health care resource utilization and health care costs for peanut allergy management.[3,9,10]

Historically, management of peanut allergy was limited to strict peanut avoidance and treatment of accidental ingestions with epinephrine.[6] This changed in January 2020 when the US Food and Drug Administration approved peanut (*Arachis hypogaea*) allergen powder-dnfp (PTAH), the first oral immunotherapy (OIT) indicated for children aged 4 to 17 years with peanut allergy to mitigate allergic reactions (including anaphylaxis because of accidental peanut exposure) in conjunction with a peanut-avoidant diet.[11] Treatment with PTAH is administered in 3 sequential phases, namely initial dose escalation (IDE; from 0.5 to 6 mg during a single day), updosing (11 dose levels from 3 to 300 mg daily at 2-week intervals each), and maintenance (300 mg daily taken at home).[11] The phase 3 PALISADE clinical trial, which had a duration of approximately 12 months, revealed that 67.2% of patients treated with PTAH were able to ingest a dose of greater than or equal to 600 mg of peanut protein compared with 4.0% of patients treated with placebo at the exit food challenge ($P < .001$).[12] Although the PTAH clinical development program has included multiple clinical trials reporting safety and efficacy data,[12-14] and guidance has been published on how peanut OIT may be integrated into clinical practice,[15,16] there are currently limited data on patients treated with PTAH in the real world.

A recent survey completed by US-based allergists who prescribed PTAH to more than or equal to 1 patient with peanut allergy aged 4 to 17 years was conducted to evaluate the physician experience with prescribing PTAH. The findings revealed that PTAH was integrated into clinical practice without difficulty by most of the 48 physicians surveyed.[17] Specifically, 21% of the physicians reported that adapting their practice to prescribe PTAH was easy or very easy and 63% reported it to be moderately easy. To add to the growing literature on this subject, this study is the first to characterize pediatric patients treated with PTAH and associated treatment patterns to better understand patients' clinical profile and experience with PTAH in US clinical practice.

Methods

Study Design

This retrospective patient chart review study analyzed data obtained through online medical chart abstraction between October 2021 and December 2021. US physicians with allergy and immunology training were recruited from a standing panel of health care providers maintained by a global market research provider, M3 Global Research, a full licensee of the American Medical Association master file, and from a list of physicians with allergy and immunology training (from the study sponsor) who had integrated peanut OIT with PTAH into their practices and who provided consent to participate in this study. The study sponsor and all researchers were blinded to the participating physicians.

Physicians were invited to participate in the study by e-mail and were asked to provide deidentified patient-level information from medical charts for up to 10 pediatric patients with peanut allergy treated with commercially available PTAH before chart abstraction through an electronic case report form (eCRF) designed specifically for this study. Physicians were screened for eligibility to participate in this study based on the criteria listed subsequently. To avoid selection bias, participating physicians were asked to use a randomization scheme that was part of the eCRF program to randomly select patients' charts for abstraction among patients seen in their practice meeting the study eligibility criteria (listed in Study Population section). Specifically, physicians chose a patient with the last name starting with the random letter provided by the program, and this randomization process was repeated for each additional patient chart selected. Completed eCRF items were collected in a common database. Collected data did not include any physician or patient-identifying information.

The study received an Institutional Review Board exemption from the Western Copernicus Group Institutional Review Board.

Study Population

Physicians were eligible to participate in the study if they met the following criteria: (1) completed fellowship training in allergy; (2) treated pediatric patients with peanut allergy; and (3) prescribed PTAH to more than or equal to 1 patient aged 4 to 17 years since its approval in January 2020. Patient medical charts were eligible if the patients met the following criteria: (1) had a physician-confirmed diagnosis of peanut allergy; (2) were initiated on PTAH for peanut allergy; (3) were aged 4 to 17 years at the time of PTAH initiation; (4) did not receive PTAH as part of an interventional clinical trial; and (5) their responding physician had complete information on peanut allergy-related care from diagnosis and for more than or equal to 3 months after initiation of PTAH, regardless of the status of PTAH use during that period.

Data Collected

Data collected included physician's clinical practice characteristics and patient-level data abstracted from medical charts. Information on PTAH treatment patterns was also collected and included dosing during the different phases of treatment (ie, IDE, updosing, and maintenance phases), planned duration of dose levels, treatment modifications, reasons for treatment modifications, and concomitant and subsequent treatments after PTAH.

Study Variables and Outcomes

Physicians' primary medical specialty (before allergy or immunology training) and primary practice setting characteristics, including practice setting (ie, private or academic), geographic region based on the US Census definition (Northeast, South, West, Midwest),[18] environment (ie, urban, suburban, or rural), and number of allergists who work at the practice, were reported. In addition, patient demographic and clinical characteristics, including clinical history of symptoms, concomitant physician-diagnosed food allergies, comorbidities, and diagnostic test results received before PTAH initiation (ie, skin prick, blood [peanut-specific immunoglobulin E or psIgE and Ara H peanut component], and OFC), were reported. Diagnostic test results were categorized as low, moderate, or high based on degree of peanut sensitivity. For example, for psIgE, we defined low, moderate, or high sensitization levels as less than 13.99 kU/L, 14.00 to 99.99 kU/L, or greater than or equal to 100.00 kU/L, respectively.

Treatment pattern outcomes included the following: (1) treatment modifications (ie, repetition of dose level, downdosing, temporary interruption, and treatment discontinuation) and reasons associated with these changes; (2) the planned duration, status of completion of the planned duration, and missing doses; (3) time to reach the 300-mg dose, defined as the time from updosing initiation to the initiation of the first 300-mg dose (event), or in the absence of an event, the last date on which the physician had peanut allergy-related care information for that patient (censor); (4) PTAH treatment persistence, defined as the time from treatment initiation to discontinuation (event), or in the absence of an event, the last date on which the physician had peanut allergy-related care information for that patient (censor); (5) use of concomitant treatment (ie, omalizumab, daily and intermittent inhaled corticosteroids for asthma, and prophylactic and rescue oral antihistamines) with PTAH; and (6) switching to unapproved OIT for peanut allergy, unapproved sublingual immunotherapy for peanut allergy, or omalizumab after discontinuing PTAH.

Statistical Analysis

Statistical analyses were conducted using SAS Enterprise Guide version 7.1 (SAS Institute Inc, Cary, North Carolina). Physician and patient characteristics and treatment pattern outcomes were summarized, with means, medians, ranges, and SDs reported for continuous variables and frequency counts and percentages reported for categorical variables. Time to reach the 300-mg dose and treatment persistence were assessed using Kaplan-Meier (KM) analysis. KM rates and number of patients still at risk at key time points post-PTAH initiation were reported along with estimated median time to event, if achieved.

Table 1
Physician and Practice Setting Characteristics[a]

Characteristic	Physicians N = 43
Physician characteristics	
Primary medical specialty in addition to allergy and immunology	
Internal medicine only	13 (30.2%)
Pediatrics only	23 (53.5%)
Internal medicine and pediatrics	7 (16.3%)
Primary practice where the physician prescribed PTAH	
Practice setting, n (%)	
Private practice (community based)	36 (83.7%)
Solo practice	9 (20.9%)
Single-specialty group practice	19 (44.2%)
Multispecialty group practice	8 (18.6%)
Academic institution (academic based)	7 (16.3%)
Region of practice, n (%)	
Northeast	11 (25.6%)
Midwest	10 (23.3%)
South	11 (25.6%)
West	11 (25.6%)
Environment of practice, n (%)	
Suburban	32 (74.4%)
Urban	11 (25.6%)
Rural	0 (0.0%)
Number of allergists who work at primary practice, mean ± SD [median; range]	3.1 ± 2.5 [2; 1-13]
1-2, n (%)	23 (53.5%)
3-5, n (%)	15 (34.9%)
≥6, n (%)	5 (11.6%)

Abbreviations: N, number; PTAH, peanut allergen powder-dnfp.
[a]All collected physician characteristics are reported in this table; no additional data were collected.

Results

Participating Physician Characteristics

A geographically balanced sample of 43 physicians (25.6% Northeast, 25.6% South, 25.6% West, 23.3% Midwest), 83.7% of whom were from private practice (mainly single-specialty practices [44.2%]) and 16.3% from academic institutions, participated in the study (Table 1). Physicians' primary specialties were pediatrics (53.5%), internal medicine (30.2%), or both (16.3%), and their primary practices were located in suburban (74.4%) or urban (25.6%) environments. More than half of the physicians (53.5%) reported that 1 to 2 physicians with allergy training worked at their primary practice, 34.9% reported 3 to 5 physicians, and 11.6% reported more than or equal to 6 physicians.

From the launch of PTAH to December 2021, the physicians estimated seeing a median of 190 patients with peanut allergy aged 4 to 17 years per physician and prescribed PTAH to a median of 5 patients with peanut allergy aged 4 to 17 years.

Patient Characteristics

Participating physicians contributed data for 118 pediatric patients with peanut allergy treated with PTAH (Table 2), who had diverse demographic characteristics. Indeed, median (range) age was 2 (0-14) years at peanut allergy diagnosis and 9 (4-17) years at PTAH initiation. Half of the patients (50.0%) were female, 58.5% were White, and 17.8% were Black or African American. At IDE initiation, 78.8% had commercial insurance and 19.5% had Medicaid coverage. More than one-third (39.0%) of these patients started PTAH in 2020 and the rest (61.0%) in 2021. The median (range) follow-up period post-PTAH initiation was 10 (3-21) months.

The most common active comorbidities at PTAH initiation were allergic rhinitis (68.6%), atopic dermatitis or eczema (36.4%), and asthma (31.4%; mostly mild persistent [54.1%] or intermittent [32.4%]); 42.4% of the patients had more than or equal to 1 concomitant food allergy (most prevalent were tree nut: 34.7%; egg: 6.8%; and milk: 5.9%; patients may have had more than one concomitant food allergy). All patients had a clinical history of symptoms suggestive of IgE-mediated reaction after peanut exposure at PTAH initiation.

Before PTAH initiation, peanut exposure resulted in emergency department visit(s) among 43.2% of patients, urgent care visit(s) among 22.0%, and use of an epinephrine autoinjector at least once among 41.5%. All patients received more than or equal to 1 diagnostic test before PTAH initiation, with 28 (23.7%) receiving the skin prick test only, 20 (16.9%) receiving the psIgE test only, and 69 (58.5%) receiving both the skin prick and psIgE tests. In addition, 58 (49.2%) patients received a peanut component test and 8 (6.8%) had an OFC. Diagnostic test results were heterogeneous, but 76.4% indicated low to moderate sensitivity (<99.99 kU/L) to peanut based on psIgE testing (Fig 1). The 8 patients who underwent an OFC were confirmed to have a positive challenge result and their skin prick, psIgE, and peanut component test results revealed a lower level of sensitivity than what was observed in the overall sample (eFig 1).

Peanut (Arachis hypogaea) Allergen Powder-dnfp Treatment Patterns

Treatment pattern data were available for a subset of 98 patients, all of whom initiated IDE. A small proportion (3 [3.1%]) discontinued PTAH after IDE, and 95 (96.9%) patients initiated updosing. At the time of data collection, 21 (21.4%) patients were active in the updosing phase, 7 (7.1%) discontinued during the updosing phase, and 67 (68.4%) reached the maintenance phase (57 [58.2%] were actively in the maintenance phase, 9 [9.2%] discontinued during maintenance, and 1 [1.0%] patient had ongoing temporary interruption during maintenance) (Table 3 and eTable 1).

Table 2
Demographic and Clinical Characteristics of Patients Treated With PTAH

Characteristic	Patients N = 118
Sociodemographic profile	
Age at peanut allergy diagnosis, mean ± SD [median; range]	2.4 ± 2.1 [2; 0-14]
Age at PTAH initiation, mean ± SD [median; range]	9.3 ± 3.4 [9; 4-17]
4-7, n (%)	44 (37.3%)
8-11, n (%)	47 (39.8%)
12-17, n (%)	27 (22.9%)
Female,[a] n (%)	59 (50.0%)
Race or ethnicity,[b] n (%)	
White	69 (58.5%)
Asian or Pacific Islander	14 (11.9%)
African American or Black	21 (17.8%)
Hispanic or Latino	12 (10.2%)
Insurance type at IDE initiation, n (%)	
Commercial insurance	93 (78.8%)
Medicaid	23 (19.5%)
Parent or guardian education level, n (%)	
Less than high school	9 (7.6%)
High school	13 (11.0%)
College or some college	26 (22.0%)
Graduate school	35 (29.7%)
Clinical profile	
Diagnostic tests received before PTAH initiation, n (%)	
Skin prick only	28 (23.7%)
Blood (psIgE) only	20 (16.9%)
Skin prick and blood (psIgE)	69 (58.5%)
Peanut component (Ara h1, h2, h3, h6, h8, h9)	58 (49.2%)
OFC[c]	8 (6.8%)
None of the diagnostic tests above	0 (0.0%)
Clinical history of symptoms suggestive of IgE-mediated reaction before PTAH initiation,[d] n (%)	
After peanut ingestion	113 (95.8%)
After cutaneous contact with peanut	25 (21.2%)
Concomitant food allergies,[d] n (%)	
Tree nut	41 (34.7%)
Milk	7 (5.9%)
Egg	8 (6.8%)
Fish or seafood	7 (5.9%)
Other	4 (3.4%)
No other food allergies	68 (57.6%)
Most common comorbidities present at PTAH initiation,[d] n (%)	
Allergic rhinitis	81 (68.6%)
Atopic dermatitis or eczema	43 (36.4%)
Asthma	37 (31.4%)
Severity[e]	
Intermittent	12 (32.4%)
Mild persistent	20 (54.1%)
Moderate to severe persistent	5 (13.5%)
Level of control[e]	
Well controlled	36 (97.3%)
Not well controlled[f]	1 (2.7%)
Very poorly controlled	0 (0.0%)
Prescription for inhaled corticosteroids before PTAH initiation	
Daily	22 (59.5%)
Intermittent	6 (16.2%)
No prescription	9 (24.3%)
Peanut allergy-related medical events any time before PTAH initiation, n (%)	
≥1 ED visits	51 (43.2%)
≥1 urgent care visits	26 (22.0%)
≥1 use of epinephrine autoinjector	49 (41.5%)

Abbreviations: ED, emergency department; IDE, initial dose escalation; N, number; OFC, oral food challenge; psIgE, peanut-specific immunoglobulin E; PTAH, peanut allergen powder-dnfp.
[a]Patient sex was not collected.
[b]No patients were Native American or Alaskan Native and 3 patients had unknown race or ethnicity.
[c]All patients who underwent OFC were confirmed to have a positive challenge result.
[d]More than one response could be selected (ie, not mutually exclusive).
[e]Asthma severity and control were defined according to National Asthma Education and Prevention Program guidelines.
[f]The patient with not well-controlled asthma had moderate persistent asthma.

A total of 4 (4.1%) patients repeated IDE (Table 3), of which 3 (3.1%) did so for reasons other than treatment-related symptoms, with the most common reason being preference of patient or family member (N = 2 [2.0%]), and the remaining patient (1.0%) repeating because of treatment-related gastrointestinal symptoms (eTable 2). During the updosing phase, 8 (8.2%) patients repeated a dose level (Table 3). Of these patients, 4 (4.1%) did so because of treatment-related symptoms, including treatment-related gastrointestinal symptoms (2 [2.0%]) and treatment-related skin symptoms (2 [2.0%]). The most common reason for repeating an updosing level other than treatment-related symptoms was scheduling conflicts or time commitment (2 [2.0%]) (eTable 2). During the updosing phase, 5 (5.1%) patients required downdosing (Table 3), with the most common reason being intercurrent flaring of comorbid conditions (2 [2.0%]) (eTable 2). None of the patients had a temporary interruption during the updosing phase (Table 3). Meanwhile, 3 (3.1%) patients had a temporary interruption during the maintenance phase, with reasons being intercurrent flaring of comorbid conditions (N = 1 [1.0%]), scheduling conflicts or time commitment (1 [1.0%]), and economic reasons (1 [1.0%]) (eTable 2).

For each updosing level (from 3 to 300 mg), most patients completed the planned dose duration (88.0%-98.6%) (eTable 3). From level 1 (3 mg) to 10 (240 mg) during the updosing phase, most patients (range of 87.0%-95.1%) had a planned dose duration of 2 weeks. Those with duration of more than 2 weeks mostly had a planned duration of 3 to 4 weeks (eTable 3).

Time to 300 mg Dose and Treatment Persistence

On the basis of KM analysis, the median time to reach the 300-mg dose was 21.3 weeks (Fig 2), and the estimated KM rates for PTAH treatment persistence at 24 and 36 weeks after initiation were 93.4% and 85.8%, respectively (Fig 3).

Among the 4 (4.2%) patients who discontinued PTAH during the first 12 weeks of treatment, 3 (3.2%) discontinued because of treatment-related symptoms (all of whom had gastrointestinal symptoms, with 1 [1.1%] patient also having systemic allergic reaction and another 1 [1.1%] patient also having other treatment-related undesirable symptoms) and 2 (2.1%) discontinued because of reasons other than treatment-related symptoms (both of whom had taste aversion and preference of patient or family member as discontinuation reasons, with 1 [1.1%] patient also having scheduling conflicts or time commitment) (Fig 3 and eTable 4). Similarly, among the 2 (2.1%) patients who discontinued during the second 12 weeks of treatment, both discontinuations were due to treatment-related symptoms (1 had skin symptoms and 1 had other undesirable treatment-related symptoms), whereas 1 (1.1%) also had preference of patient or family member as a reason for discontinuation (Fig 3 and eTable 4). However, discontinuations occurring later during treatment (ie, weeks 36-48) were all due to reasons other than treatment-related symptoms (5 [5.3%]), mainly scheduling conflicts or time commitment (3 [3.2%]) (Fig 3 and eTable 4).

During the entire follow-up period post-PTAH initiation, only 1 patient had treatment-related systemic allergic symptoms as a reason for PTAH discontinuation. This patient discontinued treatment in the early phase of updosing (30 days post-initiation). After initiation of updosing, the most common reason for treatment discontinuation other than treatment-related symptoms was the preference of the patient or family member (7 [7.4%]) (eTable 4).

Concomitant and Subsequent Treatment

Among the 118 pediatric patients with peanut allergy treated with PTAH, none used omalizumab concomitantly with PTAH. Among

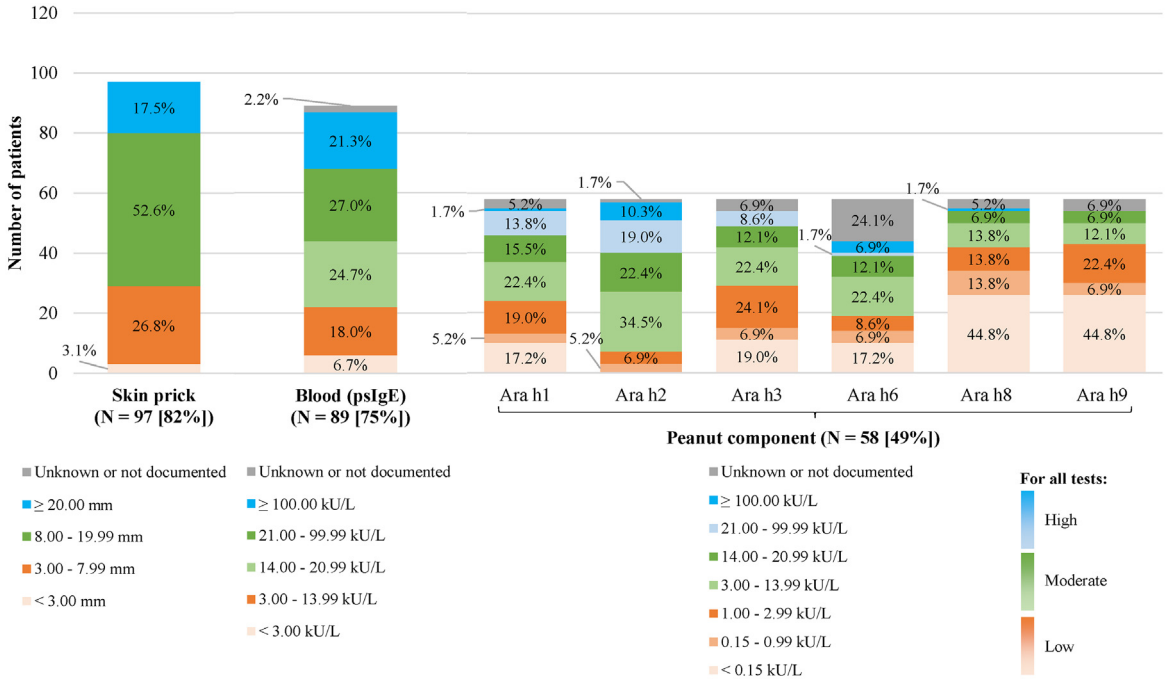

Figure 1. Diagnostic test results received before PTAH initiation (N = 118). kU, kilounit; N, number; pslgE, peanut-specific immunoglobulin E; PTAH, peanut allergen powder-dnfp.

the 22 (18.6%) patients with a prescription for daily inhaled corticosteroids for asthma before PTAH initiation, most (19 [86.4%]) continued their prescription during PTAH treatment and maintained the same dose; the remaining 3 (13.6%) patients did not continue their prescription during PTAH treatment. None of the 6 (5.1%) patients with a prescription for intermittent inhaled corticosteroids for asthma before PTAH initiation used this treatment during PTAH treatment. One-third (40 [33.9%]) of patients used prophylactic oral antihistamines to prevent PTAH adverse effects and 39 (33.1%) patients used rescue oral antihistamines to treat PTAH adverse effects during PTAH treatment (Figs. 4 and 5). A total of 3 (3.1%) patients switched to unapproved OIT for peanut allergy after reaching the maintenance phase. None of the patients who discontinued PTAH as of data collection switched to unapproved sublingual immunotherapy for peanut allergy or to omalizumab.

Discussion

In this chart review study, pediatric patients treated with PTAH were demographically diverse, including a range of age groups, ethnicities, and insurance types. Patients had heterogeneous diagnostic

Table 3
PTAH Treatment Patterns (as of Data Collection)[a]

Treatment phase	Prescribed N = 98	Ongoing dose level at data collection N = 78/98	Repeated dose level[b,c] N = 11/98	Downdosing[b,d] N = 5/98	Temporary interruption[e,f] N = 3/98	Treatment discontinuation[b] N = 19/98
IDE, n (%)	98 (100.0%)		4 (4.1%)			3 (3.1%)
Updosing,[g] n (%)	95 (96.9%)	21 (21.4%)	8 (8.2%)	5 (5.1%)	0 (0.0%)	7 (7.1%)
Maintenance,[h] n (%)	67 (68.4%)	57 (58.2%)		0 (0.0%)	3 (3.1%)	9 (9.2%)

Abbreviations: IDE, initial dose escalation; N, number; PTAH, peanut allergen powder-dnfp.
[a]Treatment pattern data were available for a subset (N = 98) of the patients. Complete data were not available for 20 patients. All proportions were calculated among the 98 patients included in this analysis.
[b]No patients experienced repetition and downdosing and discontinuation during updosing. One patient experienced repetition and downdosing but not discontinuation. One patient experienced repetition and discontinuation but not downdosing. Two patients experienced downdosing and discontinuation but not repetition. Six patients experienced repetition alone, 2 experienced downdosing alone, and 4 experienced discontinuation alone.
[c]Reasons for repetition included treatment-related gastrointestinal symptoms (1 [1.0%]), preference of patient or family member (2 [2.0%]), scheduling conflicts or time commitment (1 [1.0%]), and delay in treatment availability (1 [1.0%]) during IDE; and treatment-related gastrointestinal symptoms (2 [2.0%]), treatment-related skin symptoms (2 [2.0%]), scheduling conflicts or time commitment (2 [2.0%]), intercurrent flaring of comorbid conditions (1 [1.0%]), missed doses (1 [1.0%]), preference of patient or family member (1 [1.0%]), and unknown or not documented (1 [1.0%]) during updosing. One repetition event may have been associated with multiple reasons (ie, not mutually exclusive) (eTable 2).
[d]Reasons for downdosing included treatment-related gastrointestinal symptoms (1 [1.0%]), treatment-related undesirable symptoms other than gastrointestinal, skin, respiratory, or systemic allergic symptoms (1 [1.0%]), intercurrent flaring of comorbid conditions (2 [2.0%]), and missed doses (1 [1.0%]). One downdosing event may have been associated with multiple reasons (ie, not mutually exclusive) (eTable 2).
[e]One patient had ongoing temporary interruption during maintenance as of data collection and thus did not have an ongoing dose level or treatment discontinuation.
[f]Reasons for temporary interruption included intercurrent flaring of comorbid conditions (1 [1.0%]), scheduling conflicts or time commitment (1 [1.0%]), and economic reasons (1 [1.0%]). One temporary interruption event may have been associated with multiple reasons (ie, not mutually exclusive) (eTable 2).
[g]Full treatment patterns for each level of the updosing phase are described in eTable 1.
[h]Among the 98 patients, 67 initiated the maintenance phase on or before data collection, 21 had an ongoing updosing phase as of data collection, and 10 discontinued treatment before initiating maintenance.

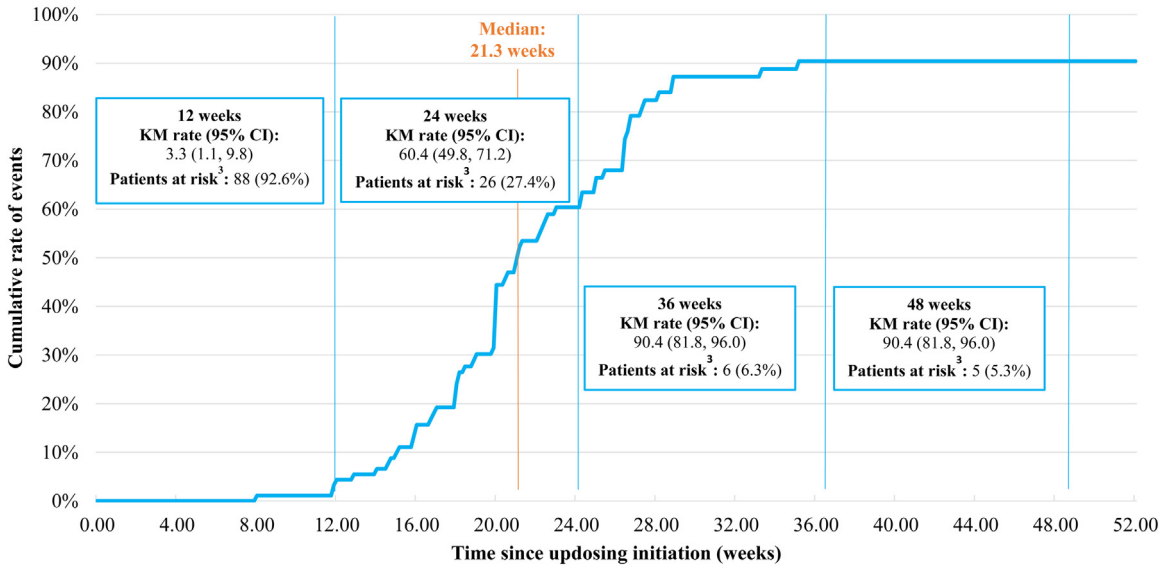

Figure 2. Time to 300 mg PTAH dose initiation among patients who initiated updosing (N = 95).[1,2] Notes: 1. Time to 300 mg was defined as time from updosing initiation to 300 mg dose initiation (event), or in the absence of event, the earliest of last date of complete care information or data collection (censor). 2. Treatment pattern data were available for a subset of 98 patients. Three patients discontinued PTAH before initiating updosing. 3. Patients who were still followed and who had not yet initiated 300 mg at the specified time point. CI, confidence interval; KM, Kaplan-Meier; N, number; PTAH, peanut allergen powder-dnfp.

test results, with a clinically meaningful proportion indicating low to moderate sensitivity to peanut, and few patients received an OFC before treatment. Consistent with the PTAH standard dosing schedule,[11] patients reached the 300-mg dose after a median of 21.3 weeks. Furthermore, the estimated rate of PTAH persistence at 24 weeks after initiation was high, at more than 90%. Although the most common reasons for discontinuation suggested that treatment-related symptoms and reasons other than treatment-related symptoms were equally involved in discontinuations in the first 24 weeks of treatment, those that happened later in weeks 36 to 48 were not due to treatment-related symptoms. Notably, only 1 patient discontinued treatment because of treatment-related systemic allergic symptoms, and this happened 30 days post-treatment initiation. With regard to concomitant treatment, one-third of patients used prophylactic oral antihistamines to prevent PTAH adverse effects and one-third used rescue oral antihistamines to treat reactions resulting from PTAH

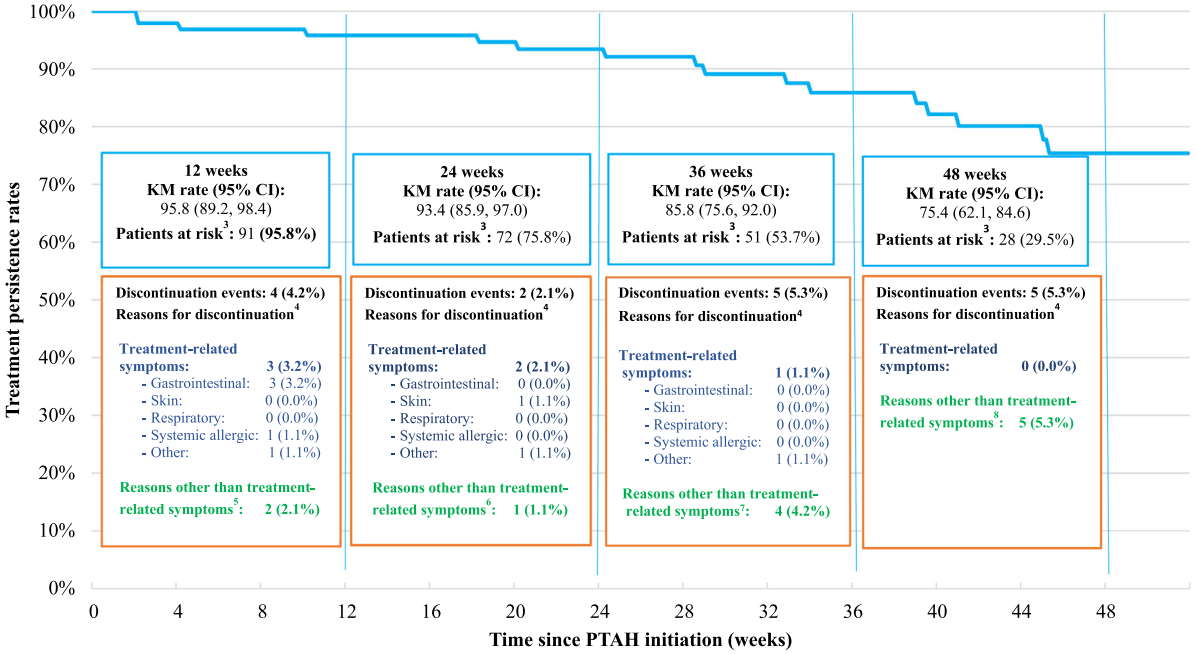

Figure 3. Treatment persistence[1] of PTAH among patients who initiated updosing (N = 95).[2] Notes: 1. Treatment persistence was defined as time from PTAH initiation to discontinuation (event), or in the absence of event, the earliest of last date of complete care information or data collection (censor). Based on availability of follow-up post-PTAH initiation, KM rates were reported until week 48 to have a sufficient sample of patients remaining at risk. 2. Treatment pattern data were available for a subset of 98 patients. Three patients discontinued PTAH before initiating updosing. 3. Patients who were still followed and still on PTAH at the specified time point. 4. More than one reason could be selected for each discontinuation event (ie, not mutually exclusive). 5. Other reasons included taste aversion (2 [2.1%]), preference of patient or family member (2 [2.1%]), and scheduling conflicts or time commitment (1 [1.1%]) (eTable 4). 6. Other reasons included preference of patient or family member (1 [1.1%]) (eTable 4). 7. Other reasons included preference of patient or family member (2 [2.1%]), scheduling conflicts or time commitment (2 [2.1%]), nonadherence with taking medication (1 [1.1%]), and economic reasons (1 [1.1%]) (eTable 4). 8. Other reasons included scheduling conflicts or time commitment (3 [3.2%]), preference of patient or family member (2 [2.1%]), and preference of the physician (2 [2.1%]) (eTable 4). CI, confidence interval; KM, Kaplan-Meier; N, number; PTAH, peanut allergen powder-dnfp.

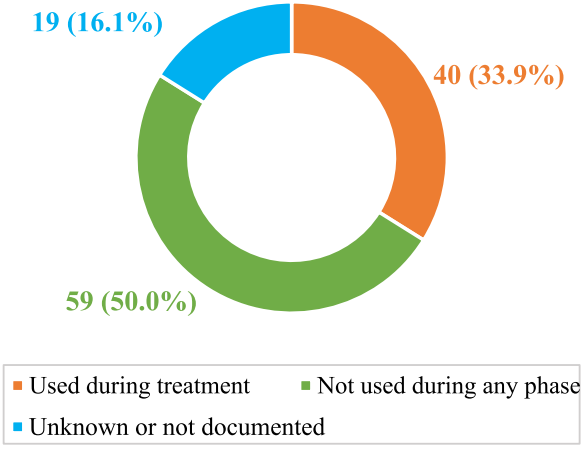

Figure 4. Use of prophylactic oral antihistamines to prevent PTAH adverse effects anytime during PTAH treatment (N = 118). N, number; PTAH, peanut allergen powder-dnfp.

treatment. Last, no patient used omalizumab concomitantly with PTAH, and treatment decisions for asthma care were not affected by PTAH among patients with a prescription for daily inhaled corticosteroids.

Although direct comparisons to the PTAH clinical development program were not conducted, some key differences should be noted. First, the patient demographic characteristics of the current real-world study were more diverse than those of the clinical trials. The clinical trials enrolled a larger proportion of male (58.7%-61.2%) and White (72.8%-76.5%) patients relative to this real-world study (male: 50.0%; White: 58.5%).[19] Second, patients in the current study had lower rates of asthma (31.4%) and atopic dermatitis or eczema (36.4%) than those in the clinical trials (asthma: 46.6%-51.0%; atopic dermatitis or eczema: 59.1%-60.5%), though comorbidities were required to be active in this study and not in the trials.[19] Additional real-world studies are warranted to clarify whether the overall PTAH-treated population is more demographically diverse and whether the different patient profile may affect the PTAH updosing experience and treatment outcomes.

In addition to the differences in demographic characteristics, prophylactic medication was not allowed in the PALISADE and ARTEMIS trials so that any treatment-related adverse events would not be disguised.[12,13] In this real-world study, one-third of patients received prophylactic antihistamines. It is unclear whether this had an effect on adverse event severity or frequency, but the literature suggests

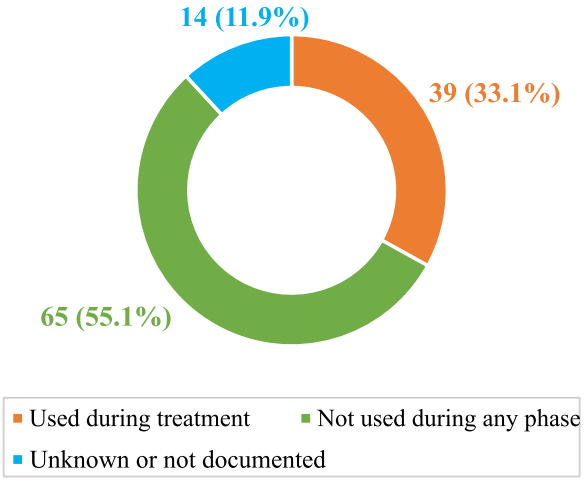

Figure 5. Use of rescue oral antihistamines to treat PTAH adverse effects anytime during PTAH treatment (N = 118). N, number; PTAH, peanut allergen powder-dnfp.

that use of prophylactic antihistamines may help for other forms of immunotherapy, such as subcutaneous immunotherapy.[15,20] Further research is warranted to evaluate the impact of prophylactic antihistamine use on the PTAH treatment journey, such as the use of H_2 blockers for prevention of gastrointestinal symptoms.

With regard to peanut allergy diagnosis, all patients in this study received more than or equal to 1 diagnostic test as part of the diagnostic workup, with most patients receiving both the skin prick and psIgE tests. Only 6.8% of patients in this study received an OFC, which may indicate that providers are confident in the ability of a skin prick test and psIgE test, along with clinical history, to successfully diagnose a patient before treatment with PTAH. In addition, other factors may also be considered, including limited availability of resources or time to conduct an OFC, insurance reimbursement, risk of adverse events, and parental concerns.[21,22] Guidelines recommend that OFC should be performed to confirm the diagnosis of peanut allergy when the combination of clinical history and skin prick or blood tests is indicative of peanut allergy.[6] Although confirmatory OFCs were rarely performed in this study sample, the patterns of peanut component test results suggest that patients who received PTAH very likely did have peanut allergy. Specifically, these patients had relatively higher levels of reactivity to immunodominant components associated with more severe systemic reactions (Ara h1, h2, h3, and h6) and lower levels of reactivity to the component associated with less severe reactions (Ara h8) or the component that is more frequently found in Mediterranean populations (Ara h9).[23]

The current study findings are aligned with a recent physician survey study by Portnoy et al.[17] US-based allergists participating in the survey and treating patients with peanut allergy aged 4 to 17 years reported that they prescribed PTAH to patients with a wide range of peanut sensitivity (based on indicators such as psIgE level and wheal size during skin prick test),[17] which was also observed at the patient level in the present study. Moreover, Portnoy et al[17] reported that treatment decisions for asthma care were typically not affected by prescribing PTAH, similar to the continuation of daily inhaled corticosteroids without any dose changes observed at the patient level in the present study. The shared decision-making process between the physician and the patient's family seemed to be an important factor for PTAH treatment in the physician survey study.[17] This finding was consistent with that of the present study, where the most common reason for treatment discontinuation other than treatment-related symptoms was the preference of the patient and their family. Taken together, these observations suggest the need for a tool to facilitate the shared decision-making process between physicians, patients, and their families.

In PTAH clinical trials, adverse events were a main reason for discontinuation in the PTAH arm,[12-14] and concern over adverse events was the most common reason to decline treatment with PTAH in an observational study from a single US practice by Patrawala et al.[24] However, the current study reported only 1 patient with treatment discontinuation because of treatment-related systemic allergic symptoms, and PTAH discontinuation was increasingly because of reasons other than treatment-related symptoms as patients progressed through the PTAH regimen. Overall, reasons such as scheduling conflicts or time commitment and preference of the patient or family member were more prominent than treatment-related symptom reasons. Consistent with this study, a pooled analysis of safety data from PTAH clinical trials indicated that adverse events leading to discontinuation mostly occurred during the first 6 months of treatment, and adverse event frequency and severity decreased over time.[19] The treatment patterns from the current study suggest that patients seem to be tolerating PTAH therapy well in real-world clinical practice, with 93.4% of patients staying on treatment at 24 weeks post-initiation. It should be noted that this study did not collect information specific to adverse events beyond treatment-related symptoms that resulted in treatment changes, and additional prospective studies are

needed to more fully characterize the potential adverse events related to PTAH treatment. Furthermore, future research using a larger sample of patients with a longer follow-up period is warranted to identify patient factors that may affect clinical outcomes, such as treatment discontinuation.

This study is subject to some limitations. First, assessment of peanut allergy diagnosis and the decision-making process for peanut allergy management in real-world settings may be based on heterogeneous criteria and assessment schedules. Second, it is unclear how generalizable these findings are to the overall peanut allergy population and practice of physicians with allergy training in the United States. In addition, select physician characteristics were collected to contextualize findings on the treatment patterns observed; additional physician data were not collected because comprehensive characterization of physicians was not the aim of the study. Last, the results may be subject to limitations inherent to retrospective chart reviews, including potential missing or not well-recorded data in patient medical charts.

In conclusion, in this chart review study, PTAH was prescribed in demographically diverse patients with a wide range of psIgE levels, with relatively few patients receiving an OFC before treatment initiation. Treatment persistence with PTAH was high in this study population, with a small proportion of patients experiencing treatment modification, such as repetition of dose level and downdosing. Notably, treatment discontinuations were most often due to reasons other than treatment-related systemic allergic symptoms. Further study is warranted to provide additional characterization of PTAH treatment patterns in larger populations as PTAH is increasingly integrated into US clinical practice.

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Supplementary Data

Supplementary data related to this article can be found at https://doi.org/10.1016/j.anai.2023.01.027.

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Supplementary Data

eTable 1
PTAH Treatment Patterns (as of Data Collection)[a]

Treatment phase	Prescribed N = 98	Ongoing dose level at data collection N = 78/98	Repeated dose level[b,c] N = 11/98	Downdosing[b,d] N = 5/98	Temporary interruption[e,f] N = 3/98	Treatment discontinuation[b] N = 19/98
IDE, n (%)	98 (100.0%)		4 (4.1%)			3 (3.1%)
Updosing, n (%)	95 (96.9%)	21 (21.4%)	8 (8.2%)	5 (5.1%)	0 (0.0%)	7 (7.1%)
Level 1: 3 mg	93 (94.9%)	1 (1.0%)	2 (2.0%)	0 (0.0%)	0 (0.0%)	2 (2.0%)
Level 2: 6 mg	90 (91.8%)	6 (6.1%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	1 (1.0%)
Level 3: 12 mg	83 (84.7%)	3 (3.1%)	0 (0.0%)	1 (1.0%)	0 (0.0%)	0 (0.0%)
Level 4: 20 mg	81 (82.7%)	0 (0.0%)	1 (1.0%)	0 (0.0%)	0 (0.0%)	2 (2.0%)
Level 5: 40 mg	80 (81.6%)	1 (1.0%)	2 (2.0%)	1 (1.0%)	0 (0.0%)	1 (1.0%)
Level 6: 80 mg	79 (80.6%)	0 (0.0%)	1 (1.0%)	2 (2.0%)	0 (0.0%)	0 (0.0%)
Level 7: 120 mg	77 (78.6%)	3 (3.1%)	0 (0.0%)	1 (1.0%)	0 (0.0%)	1 (1.0%)
Level 8: 160 mg	74 (75.5%)	1 (1.0%)	1 (1.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)
Level 9: 200 mg	73 (74.5%)	4 (4.1%)	2 (2.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)
Level 10: 240 mg	68 (69.4%)	1 (1.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)
Level 11: 300 mg	67 (68.4%)	1 (1.0%)	1 (1.0%)	1 (1.0%)	0 (0.0%)	0 (0.0%)
Maintenance,[g] n (%)	67 (68.4%)	57 (58.2%)		0 (0.0%)	3 (3.1%)	9 (9.2%)

Abbreviations: IDE, initial dose escalation; N, number; PTAH, peanut allergen powder-dnfp.
[a]Treatment pattern data were available for a subset (N = 98) of the patients. Complete data were not available for 20 patients. All proportions were calculated among the 98 patients included in this analysis.
[b]No patients experienced repetition and downdosing and discontinuation during updosing. One patient experienced repetition and downdosing but not discontinuation. One patient experienced repetition and discontinuation but not downdosing. Two patients experienced downdosing and discontinuation but not repetition. Six patients experienced repetition alone, 2 experienced downdosing alone, and 4 experienced discontinuation alone.
[c]Reasons for repetition included treatment-related gastrointestinal symptoms (1 [1.0%]), preference of patient or family member (2 [2.0%]), scheduling conflicts or time commitment (1 [1.0%]), and delay in treatment availability (1 [1.0%]) during IDE; and treatment-related gastrointestinal symptoms (2 [2.0%]), treatment-related skin symptoms (2 [2.0%]), scheduling conflicts or time commitment (2 [2.0%]), intercurrent flaring of comorbid conditions (1 [1.0%]), missed doses (1 [1.0%]), preference of patient or family member (1 [1.0%]), and unknown or not documented (1 [1.0%]) during updosing. One repetition event may have been associated with multiple reasons (ie, not mutually exclusive) (eTable 2).
[d]Reasons for downdosing included treatment-related gastrointestinal symptoms (1 [1.0%]), treatment-related undesirable symptoms other than gastrointestinal, skin, respiratory, or systemic allergic symptoms (1 [1.0%]), intercurrent flaring of comorbid conditions (2 [2.0%]), and missed doses (1 [1.0%]). One downdosing event may have been associated with multiple reasons (ie, not mutually exclusive) (eTable 2).
[e]One patient had ongoing temporary interruption during maintenance as of data collection and thus did not have an ongoing dose level or treatment discontinuation.
[f]Reasons for temporary interruption included intercurrent flaring of comorbid conditions (1 [1.0%]), scheduling conflicts or time commitment (1 [1.0%]), and economic reasons (1 [1.0%]). One temporary interruption event may have been associated with multiple reasons (ie, not mutually exclusive) (eTable 2).
[g]Among the 98 patients, 67 initiated the maintenance phase on or before data collection, 21 had an ongoing updosing phase as of data collection, and 10 discontinued treatment before initiating maintenance.

eTable 2
Reasons for Repeated Dose Level, Downdosing, and Temporary Interruption of PTAH

	Patients who initiated IDE N = 98			
	Repeated dose level		Downdosing	Temporary interruption
Reason	IDE phase N = 4	Updosing phase N = 8	Updosing phase N = 5	Maintenance phase N = 3
Total number of treatment events, N	4	10	6	3
Reasons for treatment event,[a] n (%)				
Treatment-related symptoms	1 (1.0%)	4 (4.1%)	2 (2.0%)	0 (0.0%)
Treatment-related gastrointestinal symptoms	1 (1.0%)	2 (2.0%)	1 (1.0%)	0 (0.0%)
Treatment-related skin symptoms	0 (0.0%)	2 (2.0%)	0 (0.0%)	0 (0.0%)
Treatment-related respiratory symptoms	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)
Treatment-related systemic allergic symptoms	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)
Other treatment-related undesirable symptoms	0 (0.0%)	0 (0.0%)	1 (1.0%)	0 (0.0%)
Other reasons	3 (3.1%)	6 (6.1%)	3 (3.1%)	3 (3.1%)
Accidental exposure to peanut	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)
Accidental exposure to other food allergen	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)
Intercurrent flaring of comorbid conditions	0 (0.0%)	1 (1.0%)	2 (2.0%)	1 (1.0%)
Uncontrolled asthma	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)
Scheduling conflicts or time commitment	1 (1.0%)	2 (2.0%)		1 (1.0%)
Missed updosing appointment (during IDE) or missed doses (during updosing)	0 (0.0%)	1 (1.0%)	1 (1.0%)	
Delay in treatment availability	1 (1.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)
Economic reasons	0 (0.0%)	0 (0.0%)		1 (1.0%)
Preference of patient or family member	2 (2.0%)	1 (1.0%)	0 (0.0%)	0 (0.0%)
Preference of the physician	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)
Other	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)
Unknown or not documented	0 (0.0%)	1 (1.0%)	0 (0.0%)	0 (0.0%)

Abbreviations: IDE, initial dose escalation; N, number; PTAH, peanut allergen powder-dnfp.
[a]One event may have been associated with multiple reasons (ie, not mutually exclusive).

eTable 3
PTAH Updosing Phase Dose Patterns

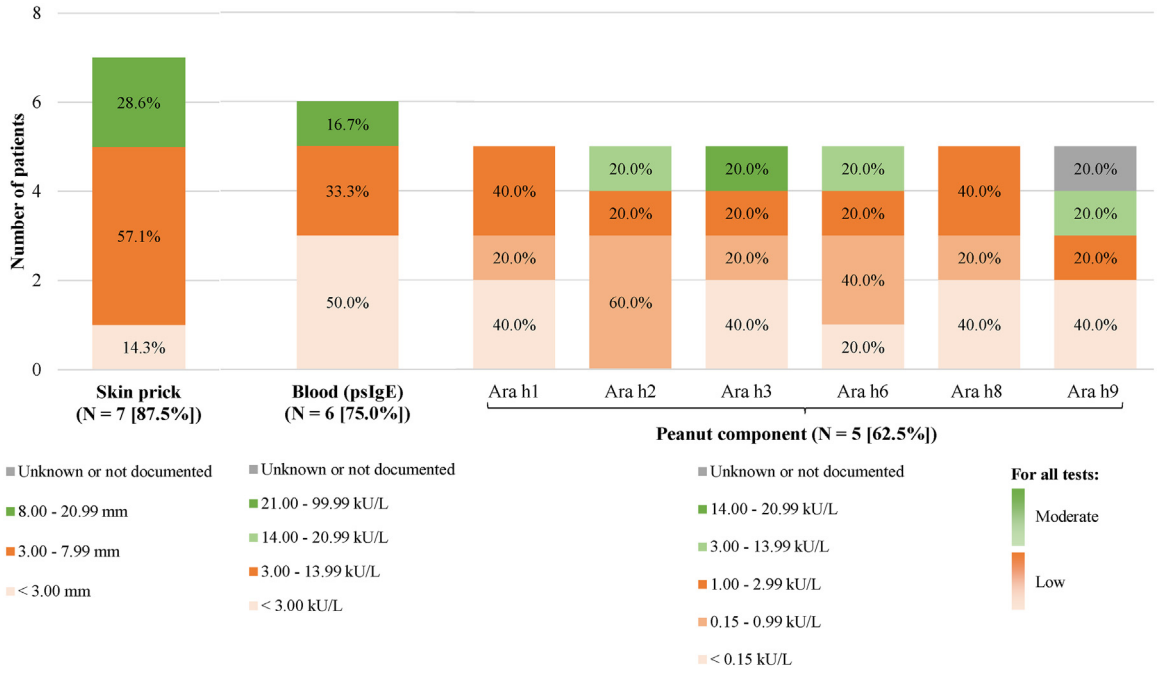
Dose pattern	Updosing phase										
	Level 1: 3 mg	Level 2: 6 mg	Level 3: 12 mg	Level 4: 20 mg	Level 5: 40 mg	Level 6: 80 mg	Level 7: 120 mg	Level 8: 160 mg	Level 9: 200 mg	Level 10: 240 mg	Level 11: 300 mg
Total number of times the dose level was prescribed (including repetitions), N	96	92	85	84	84	81	77	75	75	69	68
Planned duration of dose level, n (%)											
<2 wk[a]	4 (4.2%)	1 (1.1%)	0 (0.0%)	1 (1.2%)	1 (1.2%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	1 (1.4%)	1 (1.5%)
Approximately 2 wk (14-16 d)	89 (92.7%)	86 (93.5%)	79 (92.9%)	76 (90.5%)	74 (88.1%)	77 (95.1%)	70 (90.9%)	66 (88.0%)	70 (93.3%)	60 (87.0%)	44 (64.7%)
Approximately 3 wk (17-23 d)	3 (3.1%)	4 (4.3%)	5 (5.9%)	5 (6.0%)	7 (8.3%)	4 (4.9%)	7 (9.1%)	8 (10.7%)	1 (1.3%)	7 (10.1%)	2 (2.9%)
Approximately 4 wk (24-30 d)	0 (0.0%)	1 (1.1%)	1 (1.2%)	1 (1.2%)	2 (2.4%)	0 (0.0%)	0 (0.0%)	1 (1.3%)	4 (5.3%)	1 (1.4%)	4 (5.9%)
Approximately 5 wk (31-37 d)	0 (0.0%)	0 (0.0%)	0 (0.0%)	1 (1.2%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)
Approximately 6 wk (38-44 d)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	2 (2.9%)
Approximately 7 wk (45-51 d)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)
Approximately 8 wk (52-56 d)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	1 (1.5%)
>8 wk	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	14 (20.6%)
Completion of planned duration on dose level, n (%)											
Treatment was ongoing	1 (1.0%)	6 (6.5%)	3 (3.5%)	0 (0.0%)	1 (1.2%)	0 (0.0%)	3 (3.9%)	1 (1.3%)	4 (5.3%)	1 (1.4%)	1 (1.5%)
Completed planned duration	92 (95.8%)	81 (88.0%)	79 (92.9%)	78 (92.9%)	79 (94.0%)	79 (97.5%)	71 (92.2%)	73 (97.3%)	69 (92.0%)	68 (98.6%)	64 (94.1%)
Did not complete planned duration	3 (3.1%)	5 (5.4%)	3 (3.5%)	6 (7.1%)	4 (4.8%)	2 (2.5%)	3 (3.9%)	1 (1.3%)	2 (2.7%)	0 (0.0%)	3 (4.4%)
Unknown or not documented	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)
Missing doses, n (%)											
Patient reported missing doses	3 (3.1%)	6 (6.5%)	5 (5.9%)	7 (8.3%)	10 (11.9%)	11 (13.6%)	8 (10.4%)	9 (12.0%)	10 (13.3%)	4 (5.8%)	5 (7.4%)
Patient did not report missing doses	93 (96.9%)	86 (93.5%)	79 (92.9%)	77 (91.7%)	72 (85.7%)	68 (84.0%)	66 (85.7%)	64 (85.3%)	65 (86.7%)	64 (92.8%)	59 (86.8%)
Unknown or not documented	0 (0.0%)	0 (0.0%)	1 (1.2%)	0 (0.0%)	2 (2.4%)	2 (2.5%)	3 (3.9%)	2 (2.7%)	0 (0.0%)	1 (1.4%)	4 (5.9%)

Abbreviations: N, number; PTAH, peanut allergen powder-dnfp.
[a]Reasons for planned duration <2 weeks included treatment-related gastrointestinal symptoms (2 [22.2%]), treatment-related skin symptoms (1 [11.1%]), preference of the physician (2 [22.2%]), preference of patient or family member (1 [11.1%]), scheduling conflicts or time commitment (1 [11.1%]), taste aversion (1 [11.1%]), other (1 [11.1%]), and unknown or not documented (3 [33.3%]). One event may have been associated with multiple reasons (ie, not mutually exclusive).

eTable 4
Reasons for PTAH Treatment Discontinuation

Reason	Patients who initiated IDE N = 98	Patients who initiated updosing N = 95				
	Discontinuation before updosing initiation	Discontinuation post updosing initiation				
		Overall	0-12 wk post updosing initiation	12-24 wk post updosing initiation	24-36 wk post updosing initiation	36-48 wk post updosing initiation
Number of patients who discontinued, n (%)	3 (3.1%)	16 (16.8%)	4 (4.2%)	2 (2.1%)	5 (5.3%)	5 (5.3%)
Reasons for treatment discontinuation[a]						
Treatment-related symptoms	2 (2.0%)	6 (6.3%)	3 (3.2%)	2 (2.1%)	1 (1.1%)	0 (0.0%)
Treatment-related gastrointestinal symptoms	1 (1.0%)	3 (3.2%)	3 (3.2%)	0 (0.0%)	0 (0.0%)	0 (0.0%)
Treatment-related skin symptoms	0 (0.0%)	1 (1.1%)	0 (0.0%)	1 (1.1%)	0 (0.0%)	0 (0.0%)
Treatment-related respiratory symptoms	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)
Treatment-related systemic allergic symptoms	0 (0.0%)	1 (1.1%)	1 (1.1%)	0 (0.0%)	0 (0.0%)	0 (0.0%)
Other treatment-related undesirable symptoms	1 (1.0%)	3 (3.2%)	1 (1.1%)	1 (1.1%)	1 (1.1%)	0 (0.0%)
Other reasons	2 (2.0%)	12 (12.6%)	2 (2.1%)	1 (1.1%)	4 (4.2%)	5 (5.3%)
Accidental exposure to peanut	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)
Accidental exposure to other food allergen	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)
Intercurrent flaring of comorbid conditions	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)
Uncontrolled asthma	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)
Scheduling conflicts or time commitment	0 (0.0%)	6 (6.3%)	1 (1.1%)	0 (0.0%)	2 (2.1%)	3 (3.2%)
Delay in treatment availability	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)
Non-adherence with taking medication		1 (1.1%)	0 (0.0%)	0 (0.0%)	1 (1.1%)	0 (0.0%)
Non-adherence with safety precautions		0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)
Economic reasons	0 (0.0%)	1 (1.1%)	0 (0.0%)	0 (0.0%)	1 (1.1%)	0 (0.0%)
Taste aversion		2 (2.1%)	2 (2.1%)	0 (0.0%)	0 (0.0%)	0 (0.0%)
Preference of patient or family member	2 (2.0%)	7 (7.4%)	2 (2.1%)	1 (1.1%)	2 (2.1%)	2 (2.1%)
Preference of the physician	1 (1.0%)	2 (2.1%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	2 (2.1%)
Other	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)
Unknown or not documented	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)

Abbreviations: IDE, initial dose escalation; N, number; PTAH, peanut allergen powder-dnfp.
[a]More than one response could be selected (ie, not mutually exclusive).



eFigure 1. Diagnostic test results received before PTAH initiation among patients with OFC (N = 8). kU, kilounit; OFC, oral food challenge; psIgE, peanut-specific immunoglobulin E; PTAH, peanut allergen powder-dnfp.