SUPPLEMENTARY MATERIAL

1. Table S1: Bibliographic search strategy on practical management of patients with sensitization to LTP
2. **Study design**
3. Table S2: Survey, response results and degree of agreement

Table S1. Documentary search strategy on practical management of LTP sensitized patients

Search number	ISSUE	SYNTAXIS	Source	Results (N)	Selected (N)
1	**GENERAL**	LTP sensibilización	Google	**NRR**	0
2	**GENERAL**	LTP SEAIC	Google	**NRR**	0
3a	**GENERAL**	("lipid transfer protein" [Supplementary Concept]) AND "Allergy and Immunology"[Mesh] Filters applied: in the last 10 years, English, Spanish.	Pubmed	0	0
3b	**GENERAL**	Food Hypersensitivity [mesh] and lipid transfer protein [Title/abstract] Filters applied: English, Spanish.	Pubmed	206	0
4	**Hipersensitivity/allergy/LTP**	("Hypersensitivity"[Mesh] OR "Desensitization, Immunologic"[Mesh] OR "Food Hypersensitivity"[Mesh] OR "Allergy and Immunology"[Mesh]) AND ("lipid	Pubmed	124	5

		transfer protein" [Supplementary Concept] OR "LTP") Filters: in the last 10 years, English, Spanish.			
5	**Food allergy/vegetable proteins/sensitization/LTP**	("Hypersensitivity"[Mesh] OR "Desensitization, Immunologic"[Mesh] OR "Food Hypersensitivity"[Mesh] OR "Allergy and Immunology"[Mesh]) AND ("lipid transfer protein" [Title/Abstract] OR "LTP"[Title/Abstract])Filters: in the last 10 years, English, Spanish.	Pubmed	169	**20**
6	**Vegetable proteins/sensibilization/LTP**	"Plant Proteins"[Mesh] and "Hypersensitivity"[Mesh] AND "LTP" Filters applied: English, Spanish.	Pubmed	127	2
7a	**Cofactors/LTP/allergy**	("Hypersensitivity"[Mesh] OR "Desensitization, Immunologic"[Mesh] OR "Food Hypersensitivity"[Mesh] OR "Allergy and Immunology"[Mesh]) AND ("lipid transfer protein" [Supplementary Concept] OR "LTP")	Pubmed	11	2

		AND ("co-factor" OR "cofactor" OR "co-factors" OR "cofactors") Filters: English, Spanish.			
7b	**Cofactors/LTP/allergy**	("Hypersensitivity"[Mesh] OR "Desensitization, Immunologic"[Mesh] OR "Food Hypersensitivity"[Mesh] OR "Allergy and Immunology"[Mesh]) AND ("lipid transfer protein" [Title/Abstract] OR "LTP") AND ("co-factor" OR "cofactor" OR "co-factors" OR "cofactors")	Pubmed	16	0
8	**Inmunotherapy/ desensitization/LTP**	("Sublingual Immunotherapy"[Mesh] OR "Immunotherapy"[Mesh] OR "Desensitization, Immunologic"[Mesh]) AND ("lipid transfer protein" [Title/Abstract]) Filters: English, Spanish.	Pubmed	21	1
9	**Guidelines**	guidelines LTP allergy/ guías LTP alergia	Google	**First 20 results reviewed**	2
10	**Expert additional articles/**	NR	NR	**NRR**	0

	guidelines				
11	**Expert additional articles/ guidelines**	**NR**	**NR**	**NR**	3

N, means number; NR, means not required; NRR, means no relevant results.

Study design (Supplementary information)

For the survey design, the scientific committee, integrated by the authors, developed the questionnaire proposal with prioritized questions formulated in the PICO (Patient, Intervention, Comparison, Outcomes) structured format (20, 21), based on a literature review conducted in January 2021 (Table S1) and expert opinion. An evidence synthesis was made from selected from the literature review, based on relation with the topic and scientific relevance. An initial proposal of 69 questions was reviewed and relevance of question were externally validated through a Delphi approach by eighteen expert allergists members of the Spanish Society of Allergology and Clinical Immunology (SEAIC) belonging to the LTP Allergy Interest Group, that constituted the validation group. The questionnaire was made available to the validation group on an online platform that offered space for panellists to include their comments. The degree of agreement was assessed on a scale of 1 to 4 (1: strongly disagree, 2: moderately disagree, 3: moderately agree, 4: strongly agree). For the interpretation of results, degrees of consensus 1 and 2 were considered as disagreement, and 3 and 4 as agreement. Questions that obtained an agreement equal to or greater than 80% were accepted by consensus for the final survey. After the first round, the results and comments of the validation group were analysed, and the relevant modifications were made, to generate the second round of the questionnaire

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Tabla S2. Survey questions and answers, and agreement

QUESTION (Number of evaluable respondents)	Posible answers	Percentage of answers	Maximun agreement	Answer showing maximun agreement
DIAGNOSIS				
Clinical history (N=224)				
1. Do you ask systematically about the involvement of cofactors in the reaction(s)?	Yes	98.70%	98.70%	Yes
	No	1.30%		
2. Do you ask in a structured way about tolerance to other foods related to LTP syndrome not referred spontaneously?	Yes	99.60%	99.60%	Yes
	No	0.40%		
3. In patients with suspected sensitization/allergy to LTP, do you use a questionnaire to collect data on tolerance and habitual intake of a list of foods?	I use it	8.48%	86.20%	I do not use it but it would be useful
	I do not use it but it would be useful	86.20%		
	I do not use it and it would not be useful	5.36%		
Risk assesment (N=224)				
4. Does co-sensitization to profilin and/or PR-10 modify the management of your patients sensitized to LTP?	Yes	57.60%	57.60%	Yes
	No	42.40%		
Skin test (N=202)				
Do you systematically perform the prick test with purified LTP or extract quantified in LTP in				
5. patients with suspected respiratory allergy?	Yes	55.40%	55.40%	Yes
	No	44.60%		
6. food allergy screening?	Yes	94.60%	94.60%	Yes

	No	5.36%		
7. patients with suspected hypersensitivity to NSAIDs?	Yes	42.40%	57.60%	No
	No	57.60%		
8. In patients with LTP allergy, do you systematically perform prick tests with prefixed batteries of plant foods?	Yes	48.70%	51.30%	No
	No	51.30%		
Determination of serum specific IgE and molecular diagnosis				
For the study of specific IgE in patients suspected of sensitization to LTP, how often do you use...				
9. singleplex technique (CAP/Immulite)? (N=211)	Very frequently	72.99%	94.79%	Muy frecuente or frequently
	Frequently	21.80%		
	Ocasionally	3.79%		
	Rarely	1.42%		
	Never	0.00%		
10.multiplex techniques such as microarrays (ISAC/ALEX)? (N=140)	Very frequently	9.29%	47.86%	Ocasionally
	Frequently	22.86%		
	Ocasionally	47.86%		
	Rarely	15.71%		
	Never	4.29%		
Oral food challenge				
11. How often do you perform oral challenge testing on patients with suspected LTP allergy? (N=206)	Very frequently	10.19%	45.63%	Ocasionally
	Frequently	26.21%		
	Ocasionally	45.63%		
	Rarely	17.48%		
	Never	0.49%		

12. In your usual clinical practice, outside the context of clinical trials, why do you perform oral challenge testing on patients with suspected LTP allergy? (N=205, filtered by question 11)	Preferably for diagnosis of symptomatic food confirmation. Preferably for diagnosis of exclusion, to diagnose tolerance. Both equally. I do not perform challenge testing on these patients.	3.41% 79.51% 14.63% 2.44%	79.51%	Preferably for diagnosis of exclusion
In patients with suspected allergy to LTP, how often do you perform... (n=200)				
13. challenge tests with foods of unknown tolerance showing sensitization?	Very frequently Frequently Ocasionally Rarely Never	8.50% 33.50% 39.00% 18.00% 1.00%	42%	Very frequently or frequently
14. challenge tests with plant foods involved in the history with negative diagnostic tests?	Very frequently Frequently Ocasionally Rarely Never	11.50% 38.50% 32.00% 15.50% 2.50%	50%	Very frequently or frequently

15.food challenge tests associating cofactor?	Very frequently Frequently Ocasionally Rarely Never	2.50% 14.00% 25.00% 25.00% 34.00%	59%	Rarely or never
16. In patients with sensitization to LTP, do you indicate the introduction at home of foods with unknown tolerance in recent years and with negative tests? (N=224)	Yes No	43.30% 56.70%	56.70%	No
In your case, do you consider that not performing food challenge tests in patients suspected of LTP allergy is conditioned by...(N=224)				
17. lack of resources (time, space, staff...)?	Yes No	66.07% 33.93%	66.07%	Yes
18. lack of confidence in tolerance reproducibility in real life?	Yes No	33.93% 66.07%	66.07%	No
MANAGEMENT AND TREATMENT				
Treatment in case of reaction (N=224)				
¿How often do you include the adrenaline auto-injector in the emergency kit of the following patient profiles?				
19. patients with allergy to LTP and severe symptoms, ie. systemic reaction such an anaphylaxis?	Very frequently Frequently Ocasionally Rarely Never	98.66% 2.34% 0.00% 0.00% 0.00%	100.00%	Very frequently or frequently
	Very frequently	52.68%	77.23%	

20. patients with allergy to LTP and moderate symptoms, such as non-anaphylactic systemic reaction?	Frequently Ocasionally Rarely Never	24.55% 18.30% 3.57% 0.89%		Very frequently or frequently
21. patients with subclinical sensitization to LTP?	Very frequently Frequently Ocasionally Rarely Never	2.23% 7.59% 18.75% 40.63% 30.80%	71.43%	Never or rarely
Long-term treatment (N=224)				
Exclusion/avoidance diet according to sensitization profile and clinical reactivity				
In patients allergic to any plant food due to LTP, does it generally indicate, in situations without cofactors...				
22. avoid only the symptomatic food(s)?	Yes/No	Canceled		
23. avoid the food group (eg rosaceae, prunaceae, nuts) to which the symptomatic food belongs to?	Yes No	53.13% 46.87%	53.13%	Yes
24. avoid all peelable fruit skins?	Yes No	77.23% 22.77%	77%	Yes
25. avoid plant foods showing sensitization and tolerated?	Yes No	0.89% 99.11%	99.11%	No
26. avoid foods showing sensitization with unknown current tolerance?	Yes No	64.73% 35.26%	64.73%	Yes
27. avoid eating a fixed list of plant foods?	Yes	2.68%	97.32%	No

	No	97.32%		
28. In patients allergic to food due to LTP, do you change the indication to avoid food or parts of it (eg, skin) if the reaction suffered by the patient is associated or not with cofactors?	Yes	50.89%	50.89%	Yes
	No	49.11%		
29. In patients allergic to food due to LTP, do you recommend frequent consumption of tolerated plant foods showing sensitization, avoiding cofactors?	Very frequently	30.36%	76.79%	Very frequently or frequently
	Frequently	46.43%		
	Ocasionally	12.95%		
	Rarely	8.48%		
	Never	1.79%		
30. In patients avoiding foods due to LTP allergy, how often do you indicate trace avoidance?	Very frequently	15.18%	42.86%	Never or rarely
	Frequently	16.52%		
	Ocasionally	25.45%		
	Rarely	31.70%		
	Never	11.16%		
Cofactors management (N=224)				
31. Do you inform to the patient about the relationship of cofactors and LTP allergy?	Verbally	23.66%	74.11%	Both ways
	Written form	2.23%		
	Verbally and in Written form	74.11%		
Specific immunotherapy				
32. In patients with LTP sensitization, have you ever used peach sublingual immunotherapy? (N=224)	Yes	73.66%	73.66%	Yes
	No	26.34%		

33. How often do you consider Pru p 3 sublingual immunotherapy indicated in patients allergic to plant-foods due to LTP? (N=224)	Never Between 1 and 25% of the patients. Between 26 and 50% of the patients More than 50% of the time.	4.46% 75.00% 13.84% 6.70%	75.00%	Between 1-25% of the patients
34. In your opinion, is the commercialized LTP vaccine effective in patients allergic to plant-foods due to LTP? (N=224)	Very effective Quite effective Neutral Little effective No effective	12.05% 43.75% 30.80% 12.05% 1.34%	55.80%	Very o quite effective
¿ Based on your clinical practice, what is the importance of the following variables in your decision to prescribe specific immunotherapy to LTP allergic patients? (N=165, filtered by question 32)				
35. symptoms severity	Very important Important Neutral Little important It is not important	70.30% 24.85% 3.03% 1.82% 0.00%	95.15%	Very important or important
36. reaction frequency	Very important Important Neutral Little important It is not important	70.91% 28.48% 0.61% 0.00% 0.00%	99.39%	Very important or important

37. allergy to multiple food families due to LTP	Very important	77.58%	97.58%	Very important or important
	Important	20.00%		
	Neutral	2.42%		
	Little important	0.00%		
	It is not important	0.00%		
38. nutritional and/or quality of life impairment by diet avoidance	Very important	64.85%	91.52%	Very important or important
	Important	26.67%		
	Neutral	6.67%		
	Little important	1.82%		
	It is not important	0.00%		
39. frequency of cofactor involvement in the reactions	Very important	18.18%	60.00%	Very important or important
	Important	41.82%		
	Neutral	30.91%		
	Little important	6.67%		
	It is not important	2.42%		
¿ In your opinion, what is the importance of the following barriers in your decision to prescribe specific immunotherapy to LTP sensitized patients? (N=224)				
40. lack of knowledge in handling it	Very important	11.16%	39.73%	Very important or important
	Important	28.57%		
	Neutral	20.09%		
	Little important	22.32%	40.18%	Little or not important
	It is not important	17.86%		

41. treatment cost	Very important	18.30%	58.04%	Very important or important
	Important	39.73%		
	Neutral	25.00%		
	Little important	12.95%		
	It is not important	4.02%		
42. treatment duration	Very important	11.61%	41.96%	Very important or important
	Important	30.36%		
	Neutral	30.80%		
	Little important	22.32%		
	It is not important	4.91%		
43. rejection by the patient	Very important	34.82%	74.55%	Very important or important
	Important	39.73%		
	Neutral	18.75%		
	Little important	6.25%		
	It is not important	0.45%		
What is the most frequent reason to prescribe an immunotherapy to an LTP allergic patient … (N=165, filtered by question 32)				
44. expanding the diet?	Very frequently	55.76%	88.49%	Very frequently or frequently
	Frequently	32.73%		
	Ocasionalmente	8.48%		
	Rarely	3.03%		
	Never	0.00%		

45. stopping the natural progression of LTP syndrome?	Very frequently Frequently Ocasionalmente Rarely Never	39.39% 35.15% 12.73% 11.52% 1.21%	74.54%	Very frequently or frequently
46. decreasing the number of reactions, consequently improving the quality of life of patients?	Very frequently Frequently Ocasionally Rarely Never	75.15% 24.24% 0.61% 0.00% 0.00%	99.39%	Very frequently or frequently
47. How often did the patient refuse sublingual or oral immunotherapy with peach as a treatment once proposed? (N=165, filtered by question 32)	Very frequently Frequently Ocasionally Rarely Never	2.42% 24.24% 46.67% 24.85% 1.82%	46.67%	Ocasionally
Omalizumab (N=224)				
¿ How often do you prescribe omalizumab in patients sensitized to food contained LTP...				
48. with severe or life-threatening reactions due to LTP allergy?	Very frequently Frequently Ocasionally Rarely Never	3.57% 4.02% 10.71% 22.32% 59.40%	81.72%	Rarely or never
49. with allergy to multiple plant foods?	Very frequently Frequently	1.34% 1.79%	87.98%	Rarely or never

	Ocasionally	8.93%		
	Rarely	21.88%		
	Never	66.10%		
50. as previous treatment to start sublingual peach or oral juice immunotherapy?	Very frequently	0.45%		
	Frequently	0.45%		
	Ocasionally	6.70%	92.40%	Rarely or never
	Rarely	13.84%		
	Never	78.57%		
Nutritionist referral (N=224)				
51. How often do you refer LTP allergic patients to a nutritionist due to this allergy?	Very frequently	0.89%		
	Frequently	5.80%		
	Ocasionally	24.55%	68.75%	Rarely or never
	Rarely	37.05%		
	Never	31.70%		

Agreement (≥80%) is represented in green cells, almost agreement (70-80%) in orange cells.