Supplementary Table 4. Delphi questionnaire for recommendations in vocal fold paralysis management guideline

No.	Recommendation	Fully agree	Agree	Neither agree nor disagree	Disagree	Totally disagree	Comment
Role of laryngoscopy and stroboscopy							
1A	Laryngoscopy is an essential diagnostic tool to confirm the immobility of the vocal fold (Strong recommendation, high-quality evidence).	40 (100)					
1B	Stroboscopy is helpful to evaluate the phonatory glottal closure, mucosal wave, and level difference between the vocal folds (Weak recommendation, low-quality evidence).	34 (85.0)	5 (12.5)	0	1 (2.5)	0	
Role of voice assessments							
2A	Voice assessments including perception, acoustics, aerodynamics, and self-rating questionnaires before and after treatment are necessary to provide a treatment plan, visual feedback, and proper comparison of voice outcomes between treatment modalities for patients with UVFP (Strong recommendation, high-quality evidence).	28 (70.0)	12 (30.0)	0	0	0	
2B	The determination of the assessment tools is based on the patient's capacity to effectively participate and the examiner's facility with the assessment tool (Strong recommendation, low-quality evidence).	26 (65.0)	13 (32.5)	1 (2.5)	0	0	
2B-a	A perceptional study, GRBAS is valuable to examine the subjective vocal quality of the patient.	16 (40.0)	22 (55.0)	2 (5.0)	0	0	
2B-b	Acoustic parameters including jitter, shimmer, noise-to-harmonic ratio and cepstral peak prominence provide an objective assessment of the vocal quality of the patient.	14 (35.0)	26 (65.0)	0	0	0	
2B-c	Aerodynamic parameters including maximal phonation time and mean airflow rate are useful to evaluate the glottal insufficiency of patients with UVFP.	24 (60.0)	15 (37.5)	1 (2.5)	0	0	
2B-d	The voice handicap index reflects UVFP patients' perception about their own vocal status.	11 (27.5)	27 (67.5)	1 (2.5)	0	0	
Role of imaging							
3	Neck computed tomography or magnetic resonance imaging covering an area from the skull base to the thoracic inlet/arch of the aorta is recommended to identify the underlying cause of the pathology for patients with unexplained UVFP (Strong recommendation, high-quality evidence).	34 (85.0)	4 (10.0)	1 (2.5)	0	0	
Role of laryngeal electromyography							
4A	Laryngeal electromyography (LEMG) is useful to differentiate VFP from mechanical causes including arytenoid fixation or dislocation for the patients with unilateral vocal fold immobility (Strong recommendation, high-quality evidence).	19 (47.5)	16 (40.0)	4 (10.0)	0	0	
4B	LEMG provides prognostic information about the recovery of neural function for patients (Strong recommendation, High-quality evidence).	15 (37.5)	20 (50.0)	3 (7.5)	1 (2.5)	0	
Spontaneous recovery							
5	Spontaneous recovery of vocal fold mobility can occur within 6 to 12 months from the onset of UVFP (Strong recommendation, moderate-quality evidence).	16 (40.0)	19 (47.5)	1 (2.5)	0	2 (5.0)	
Role of medical treatment - Steroid							
6	Routine prescription of systemic steroids is not recommended for the treatment of UVFP because these drugs may cause adverse effects, while there is a lack of evidence of their benefit in the recovery of neural function (Strong recommendation, low-quality evidence).	16 (40.0)	17 (42.5)	4 (10.0)	2 (5.0)	0	
Selection of injection material							
7	Properties of the injection materials as well as the duration and cause of UVFP should be considered when choosing a material for injection. Temporary or short duration materials are used when spontaneous recovery of vocal fold mobility is expected (Strong recommendation, moderate-quality evidence).	29 (72.5)	9 (22.5)	1 (2.5)	0	0	
Preferred technique for injection laryngoplasty							
8A	No single technique shows superior results compared to other approaches with regard to voice outcomes (Strong recommendation, Low-quality evidence).	15 (37.5)	21 (52.5)	0	0	1 (2.5)	
8B	The preference of the patient and the experience of the laryngologist along with the availability of resources should all be taken in account when deciding on the techniques for injection laryngoplasty (Strong recommendation, moderate-quality evidence).	27 (67.5)	14 (35.0)	3 (7.5)	0	0	

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Supplementary Table 4. Continued

No.	Recommendation	Fully agree	Agree	Neither agree nor disagree	Disagree	Totally disagree	Comment
Timing of injection laryngoplasty							
9	Injection laryngoplasty could be applied at any stage of UVFP. Early and active intervention with temporary injection materials is recommended to prevent lung complications and to ensure the quality of life of a patient with high vocal demands (Strong recommendation, moderate-quality evidence).	21 (52.5)	15 (37.5)	3 (7.5)	0	0	
Optimal follow-up after injection laryngoplasty							
10	First follow-up visit after injection is reasonable within a week to a month, in order to detect short-term complications and evaluate the results. Then, a subsequent follow-up visit 3-6 months and 1 year later would be appropriate to detect the long-term effects (Weak recommendation, low- quality evidence).	13 (32.5)	23 (57.5)	3 (7.5)	0	0	
Voice rest after injection laryngoplasty							
11	There is no evidence concerning the benefit of voice rest after injection laryngoplasty. However, many surgeons recommend a voice rest of 1-2 days after injection (Weak recommendation, low-quality evidence).	9 (22.5)	24 (60.0)	5 (12.5)	0	0	
Preferred injection laryngoplasty in permanent UVFP							
12	Injection laryngoplasty is preferred for patients with a short life expectancy, comorbidity and for those who do not want to sustain a visible neck scar (Weak recommendation, low-quality evidence).	12 (30.0)	25 (62.5)	2 (5.0)	0	0	
Preferred arytenoid adduction with medialization thyroplasty							
13	When a large posterior glottic gap and/or level difference is present, addition of arytenoid adduction to the medialization thyroplasty may be beneficial for improved voice outcomes (Weak recommendation, low-quality evidence).	13 (32.5)	24 (60.0)	2 (5.0)	0	0	
Intraoperative re-innervation							
14	Intraoperative recurrent laryngeal nerve re-innervation including primary re-anastomosis or ansa cervicalis-to-RLN neurorrhaphy should be considered for direct laryngeal nerve injury during the surgical procedure (Strong recommendation, moderate-quality evidence).	20 (50.0)	17 (42.5)	2 (5.0)	0	0	
Delayed re-innervation							
	Delayed RLN re-innervation may be considered when the RLN denervation period is not long (less than 2 years) for the treatment of surgery-related UVFP (Weak recommendation, moderate-quality evidence).	2 (5.0)	13 (32.5)	21 (52.5)	3 (7.5)	0	Removed[a)]
	Patient age is an influential factor of the surgical outcome of laryngeal re-innervation for UVFP. Children and young adults (≤60 years) may be good candidates for RLN re-innervation (Weak recommendation, moderate-quality evidence).	2 (5.0)	20 (50.0)	17 (42.5)	0	0	Removed[a)]
Voice therapy							
15A	Voice therapy may be used to improve the voice outcomes for patients with mild symptoms or when surgical medialization procedures are not available (Strong recommendation, low-quality evidence).	15 (37.5)	22 (55.0)	2 (5.0)	0	0	
15B	Voice therapy before and/or after surgical intervention is helpful for optimal postoperative phonation (Strong recommendation, low-quality evidence).	17 (42.5)	20 (50.0)	2 (5.0)	0	0	
Aspiration prevention							
16A	Medialization surgical procedures can reduce the rates of penetration and aspiration for patients with acute or chronic UVFP (Strong recommendation, moderate-quality evidence).	19 (47.5)	19 (47.5)	0	0	1 (2.5)	
16B	If the patient is expected to be at risk for aspiration, medialization surgical procedures should be considered at the time of diagnosis (Strong recommendation, moderate-quality evidence).	18 (45.0)	19 (47.5)	1 (2.5)	1 (2.5)	0	

Values are presented as number (%).
UVFP, unilateral vocal fold paralysis; GRBAS, grade, roughness, breathiness, asthenic, and strained.
[a)]Failed to get more than two-thirds of agreement in Delphi questionnaire.