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Supplementary Table 1. Clinical and Demographic Characteristics of Patients Undergoing Bronchoscopic Evaluations

No.	GA (wk+d)	Birth weight (g)	Sex	BPD (NICHD)	BPD (Jensen)	Bronchoscopy evaluation			Bronchoscopic findings					Braonchoscopic diagnosis	Management	Medication	Discharge
						PMA (wk+d)	Evaluation	Ventilatory support	Vocal cord	Trachea	carina	Rt bronchus	Lt bronchus				
1	25+4	780	F	Moderate	1	41+5	Extubation failure	SIMV	Subglottic stenosis (40%–50%)	Tracheomalacia	Intact carina	No endobronchial lesion	No endobronchial lesion	Subglottic stenosis Tracheomalacia	Low dose long course dexamethasone	No	Alive
2	25+6	840	M	Severe	3	54+6	Extubation failure	NAVA	Arytenoids: collapse of redundant arytenoid tissue Epiglottis: normal No subglottic stenosis	Moderate to severe tracheomalacia was seen in lower trachea (70%–80% collapse)	Intact carina	Moderate bronchomalacia at Rt main bronchus and Rt bronchus intermedius	Moderate bronchomalacia at Lt main bronchus (expiration: 50%–60%)	Tracheobronchomalacia, moderate	Tracheostomy w/ home ventilator	Sildenafil	Alive
3	25+6	820	M	Severe	3	46+2	Airway evaluation	HFNC	Vocal cord: symmetritical and movable Epiglottis: omega-shaped Arytenoid: bulky arytenoid tissue Subglottis: 6 o'clock-nodular granulation tissue (+)	Mild tracheomalacia at lower trachea	Blunted carina	Mild bronchomalacia at Rt main bronchus	No endobronchial lesion	Subglottic nodular granulation tissue at 6 o'clock Tracheobronchomalacia from Lower trachea to Rt main bronchus, mild Omega-shaped epiglottis	Endoscopic dilation of tracheal stenosis with balloon	No	Alive
4	26+6	620	M	Severe	2	54+0	Extubation failure	NAVA	Glottic ariway narrowing due to eryhtematous mucosal swellng. r/o Glottic and subglottic stenosis Narrowing of nasopharyneal airway due to r/o mucosal hypertrophy	Moderate tracheomalacia at lower trachea	Disappearance of sharpness	Bronchomalacia (mild to moderate) at Rt main bronchus during expiration	No endobronchial lesion	1. r/o Glottic and subglottic stenosis 2. Tracheobronchomalacia, moderate 3. Nasopharyngeal narrowing	Tracheostomy w/ home ventilator	Sildenafil	Alive
5	26+6	930	F	Severe	3	42+1	Extubation failure	SIMV	Epiglottis and arytenoid tissues: normal Mild malatic change with redundancy of arytenoid tissue	Moderate to severe tracheomalacia 75%–90% collapse of trachea	Intact carina	No endobronchial lesion	No endobronchial lesion	Tracheomalacia, moderate to severe	Dexamethasone (d/t airway edema)	No	Alive
6	26+1	910	F	Severe	3	76+0	Extubation failure	NAVA	Aryepiglottis and arytenoid tissue: redness and swelling No definite glottic stenosis No subglottic stenosis	Moderate degree of tracheomalacia at lower trachea	Intact carina	Moderate bronchomalacia at Rt main and bronchus intermedius	Moderate bronchomalacia at Lt main bronchus	Tracheobronchomalacia, moderate	-	Sildenafil/ diuretics	Die
7	26+0	760	M	Severe	3	49+5	Extubation failure	NAVA	Epiglottis: omega-shaped epiglottis Short aryepiglottic fold and anterior collapse of bulky arytenoids No subglottic stenosis	Mild tracheomalacia at lower trachea (forced breathing: 50%–70% collapse)	Blunted carina	Severe bronchomalacia at Rt main bronchus (at suction, forced breathing: 90%–100% collpase)	Moderate bronchomalacia at Lt main bronchus (at forced breathing: 70%–90% collapse)	Mild laryngomalacia (type 1&2) Tracheomalacia, mild Bronchomalacia, moderate to severe both	Tracheostomy w/ home ventilator	Sildenafil	Alive
8	27+5	1,050	F	Moderate	2	46+5	Extubation failure	NAVA	Epiglottis: normal Arytenoid: erythematous & edematous inflammation Redundant arytenoid tissue (type 1 laryngomalacia) Long segmental stenosis from vocal cord to subglottic area with erythematous inflammation and granulation	Moderate tracheomalacia (forced breathing and suction: 75%–90% collapse)	Blunted carina	Moderate bronchomalacia (75%–90% collapse)	Moderate bronchomalacia (75%–90% collapse)	Laryngomalacia, type 1 Glottic&Subglottic stenosis Moderate tracheobronchomalacia (75%–90% collapse)	Tracheostomy w/ home ventilator	Sildenafil	Alive

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						PMA (wk+d)	Evaluation	Ventilatory support	Vocal cord	Trachea	carina	Rt bronchus	Lt bronchus				
10	27+3	830	F	Severe	3	40+4	Extubation failure	NAVA	Epiglottis: normal Arytenoid tissue: mild redundant tissue of aryepiglottic fold Subglottic stenosis (+)	Free	Sharp and mobile	No endobronchial lesion	No endobronchial lesion	Subglottic stenosis Mild type 1 laryngomalacia	Low dose dexamethasone (d/t laryngeal edema)	No	Alive
11	28+5	1,240	M	Severe	3	52+6	Extubation failure	NAVA	NA	Moderate degree of tracheomalacia	Intact carina	Moderate bronchomalacia at Rt main bronchus Bronchial	No endobronchial lesion	Tracheobronchomalacia, moderate	Trachestomy w/ home ventilator	Sildenafil	Alive
12	28+3	1,090	F	Severe	3	42+0	Airway evaluation	HFNC	Mild larynx redundancy	Mild tracheomalacia at lower trachea	Intact carina	No endobronchial lesion	No endobronchial lesion	Lower tracheomalacia, mild	-	Lasix	Alive
13	28+1	1,410	M	Severe	2	39+1	Extubation failure	SIMV	Epiglottis: posterior collapse Posterior displacement on supine position Arytenoid: bulky arytenoid and anterior collapse of arytenoid tissue at inspiration No subglottic stenosis	Moderate to severe tracheomalacia at forced breathing (70%–90% collapse)	Intact carina	No endobronchial lesion	No endobronchial lesion	Type 1&3 laryngomalacia Moderate to severe tracheomalacia	Tracheostomy w/ home ventilator	No	Alive
14	28+2	490	M	Severe	3	57+3	Extubation failure	NAVA	Epiglottis: normal Arytenoid: Inward collapse of redundant tissue (laryngomalacia type 1) Glottis: granulation tissue around vocal cords Suglottis: erythematous and whitish inflammatory mucosal change	Moderate tracheomalacia at expiration (70%–90% collapse).	Blunted carina	Moderate bronchomalacia at expiration (70%–90% collapse) Irregular oval shape of bronchus due to chronic change such as BPD	Moderate bronchomalacia at expiration (70%–90% collapse) Irregular oval shape of bronchus due to chronic change such as BPD	Mild laryngomalacia, type 1 Glottic stenosis due to granualtion and inflammation Moderate tracheobronchomalacia	Subglottis granulation tissue: >excision done Redundant arytenoid mucosa: >Cold knife excision, biopsy done	Sildenafil	Alive
15	29+0	1,140	F	Moderate	2	37+0	Airway evaluation	HFNC	Redundant aryepiglottic folds No subglottic stenosis	Mild tracheomalacia	Intact carina	Mild bronchomalacia	No endobronchial lesion	Laryngomalacia, mild Tracheobronchomalacia, mild		PPI	Alive
16	29+6	1,320	M	Severe	3	37+5	Airway evaluation	SIMV	Moderate to severe glottic stenosis Epiglottis normal Arytenoids: short arytenoid folds and intermittent collapse of redundant arytenoid tissue at inspiration No subglottic stenosis	Free	Intact carina	No endobronchial lesion	No endobronchial lesion	Glottic stenosis, moderate to severe Arytenoid granulation Laryngomalacia, mild (type 1&2)	Tracheostomy w/o home ventilator	PPI	Alive
17	29+2	1,080	F	Severe	3	44+3	Extubation failure	PRVC	No definite laryngomalaica, glottic or subglottic stenosis	Free	Intact carina	No endobronchial lesion	No endobronchial lesion	No evidence of upper airway obstruction Mucosal erythema and thickening at Rt bronchial tree Increased bronchial secretion at RUL	Tracheostomy w/ home ventilator	No	Alive
19	32+5	1,220	F	Severe	3	41+5	Airway evaluation	HFNC	Larynx: erythema, mucosal swelling Abundant soft tissue in the supraglottis inward collapse of corniculate and cuneiform cartilages during inspiration	U shape tracheal collapse	Intact carina	No endobronchial lesion	No endobronchial lesion	Severe laryngomalacia, type 1→r/o laryngopharyngeal reflux Tracheomalacia, moderate	PPI trial If respiratory failure persisted, consider the supraglottoplasty operation	PPI	Alive

Abbreviations: Abbreviations: GA, gestational age; BPD, bronchopulmonary dysplasia; NICHD, Eunice Kennedy Shriver National Institute of Child Health and Human Development; PMA, postmenstrual age; Rt, right; Lt, left; F, female; SIMV, synchronized intermittent mandatory ventilation; M, male; NAVA, neurally adjusted ventilatory assist; HFNC,high flow nasal cannula; r/o, rule out; w/, with ; d/t, due to; NA, not available; PPI, proton pump inhibitor; PRVC, pressure regulated volume control.