

Vocal Cord Palsy after Left Pulmonary Artery Stent Insertion

Seung Min Baek, Hyun Chung, Gi Beom Kim*, Mi Kyung Song, Eun Jung Bae, and Chung Il Noh

Department of Pediatrics, Seoul National University Children's Hospital, Seoul National University School of Medicine, Seoul, Korea

Left recurrent laryngeal nerve palsy (LRLNP) after an endovascular procedure is rare. Here, we report about a 10-year-old boy with LRLNP after a left pulmonary artery (LPA) stent insertion.

He received device closure for Patent ductus arteriosus (PDA) when he was 1-year-old and was transferred to our hospital for left pulmonary artery stenosis when he was 9-years-old without associated symptoms. Computed tomography (CT, Fig. 1A) showed the LPA narrowed by the PDA device, a lung perfusion scan showed decreased left lung perfusion (right to left ratio: 75% to 25%), and echocardiography (Fig. 1B, C) showed LPA stenosis (peak velocity, 2.17 m/sec).

The LPA stenosis showed aggravation 1 year later (peak

velocity, 2.43 m/sec) and the LPA stent insertion was performed under general anesthesia. LPA ballooning was done with a Boston MUSTANG 10 mm diameter sized balloon catheter and a EV3 stent, 10 mm diameter-17 mm length, was inserted in the LPA (Fig. 1D, E). He continuously complained of hoarseness three weeks after the procedure. Both laryngoscopy and electromyography showed LRLNP. He still had hoarseness as of the 6 month follow-up.

Because there have been only two cases of LRLNP after LPA stent insertion,^{1,2} the risk factors are unknown. Tetralogy of Fallot (TOF) frequently accompanies LPA stenosis and vice versa.^{3,4} However, including our case, all three cases of LRLNP after LPA stent insertion were not

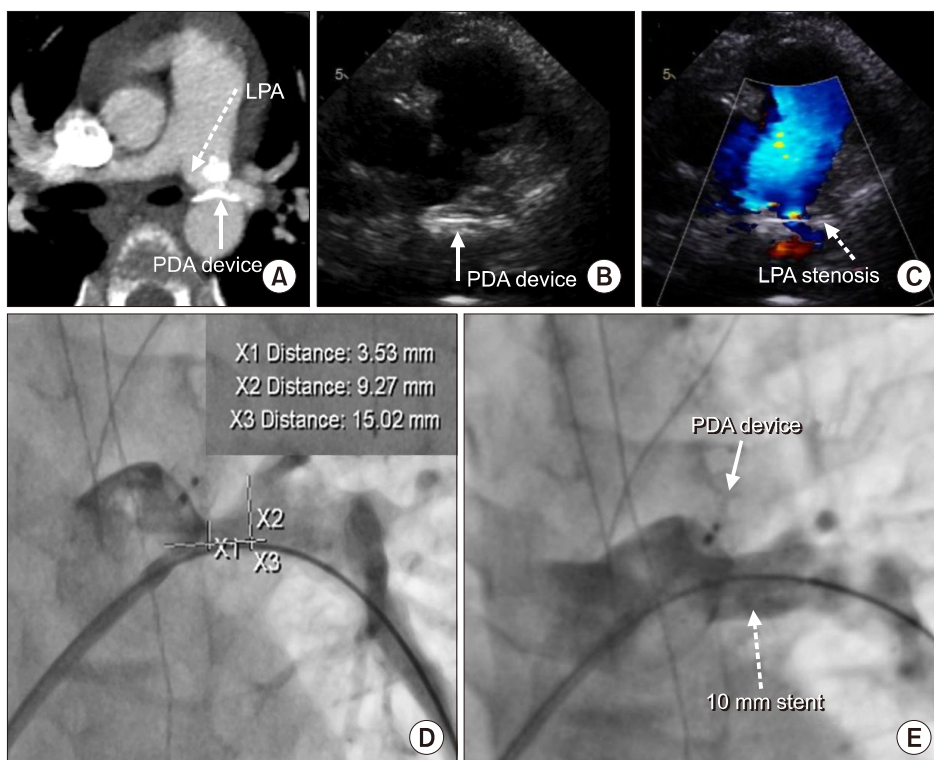


FIG. 1. Left pulmonary artery stenosis demonstrated by CT scan (A), echocardiography (B, C), and angiography before (D) and after (E) 10 mm stent insertion.

Corresponding Author:

Gi Beom Kim

Department of Pediatrics, Seoul National University Children's Hospital, Seoul National University School of Medicine, 101 Daehak-ro, Jongno-gu, Seoul 03080, Korea

Tel: +82-2-2072-0266, Fax: +82-2-743-3455, E-mail: ped9526@snu.ac.kr

Article History:

Received October 20, 2017

Revised October 30, 2017

Accepted October 31, 2017

associated with TOF. Because TOF patients have hypoplastic pulmonary arteries and acute angulation between main the pulmonary artery and the LPA, they may have more space along the left recurrent laryngeal nerve (LRLN).

Assaqqat et al.¹ reported LRLNP after a concurrent intervention on the LPA, PDA and ASD. They assumed that the LRLN might have been entrapped between the two devices in the PDA and LPA. Likewise, in our case, a CT scan showed the Amplatzer device compressing the LPA. Thus, interventions on both the PDA and LPA could have a synergistic effect on LRLN.

CONFLICT OF INTEREST STATEMENT

None declared.

REFERENCES

1. Assaqqat M, Sibli G, Fadley FA. Hoarseness after pulmonary arterial stenting and occlusion of the arterial duct. *Cardiol Young* 2003;13:302-4.
2. Kobayashi D, Turner DR, Humes RA. Left recurrent laryngeal nerve palsy secondary to left pulmonary artery stent in a child. *Catheter Cardiovasc Interv* 2012;80:482-4.
3. Law MA, Shamszad P, Nugent AW, Justino H, Breinholt JP, Mullins CE, et al. Pulmonary artery stents: long-term follow-up. *Catheter Cardiovasc Interv* 2010;75:757-64.
4. Patel ND, Kenny D, Gonzalez I, Amin Z, Ilbawi MN, Hijazi ZM. Single-center outcome analysis comparing reintervention rates of surgical arterioplasty with stenting for branch pulmonary artery stenosis in a pediatric population. *Pediatr Cardiol* 2014; 35:419-22.