

Fellows Column: Vocal Cord Paralysis After Transcatheter Closure of PDA in a Preterm Infant

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“A preterm infant underwent transcatheter closure of patent ductus arteriosus (PDA). Based on angiographic findings, a 5.2 mm Amplatzer Piccolo Occluder device was chosen and delivered in an intraductal position (Figure 1, panel A).”

Short Clinical Vignette:

A preterm infant underwent transcatheter closure of patent ductus arteriosus (PDA). Based on angiographic findings, a 5.2 mm Amplatzer Piccolo Occluder device was chosen and delivered in an intraductal position (Figure 1, panel A). Postoperatively, the infant developed feeding difficulty. The modified barium swallow study showed silent aspiration of nectar liquid (Video, Figure 2). Nasolaryngoscopy performed by the Otolaryngologist revealed left true vocal fold (TVF) paralysis with limited adduction.

Discussion:

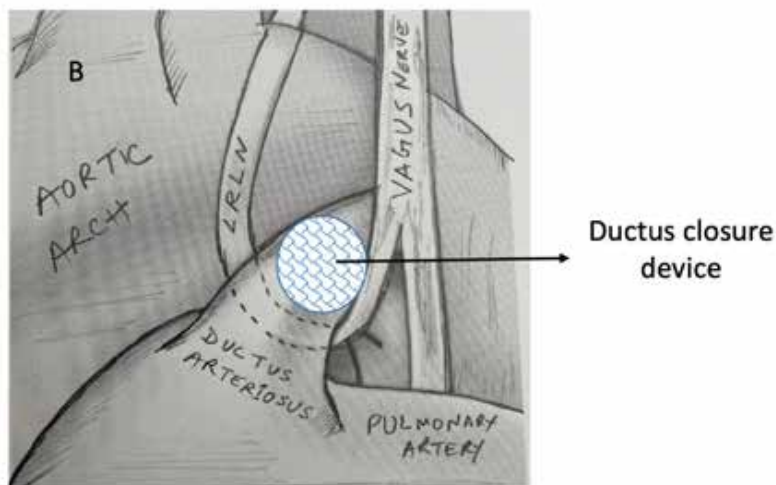
The plausible mechanism of left TVF paralysis noted after PDA closure is the impingement on the left recurrent laryngeal nerve

(LRLN). LRLN runs in close proximity to PDA, looping back on it (Figure 1, panel B). We postulated that as the retention disc diameter of the Amplatzer Piccolo Occluder device used was larger than the preoperative PDA diameter, 5.2 mm versus 2.9 mm, it would have impinged the LRLN (device cross-section shown in the illustration). The other possibility would be the entrapment of the LRLN between the dilated left pulmonary artery and the device.

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Ductus closure device in situ



LRLN - Left Recurrent Laryngeal Nerve

Figure 1:

Panel A- Echocardiogram showing Amplatzer Piccolo Occluder device in situ.

Panel B- Diagrammatic representation of Amplatzer Piccolo Occluder device compressing and impinging the LRLN (Figure adapted from Ryan et al. *Neoreviews*. 2020;21(5):e308-e322)

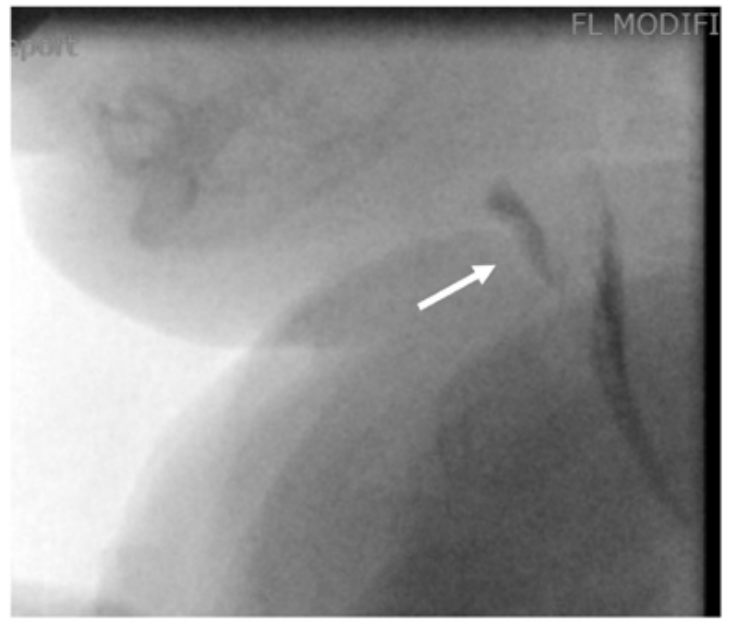


Figure 2:

Modified barium swallow study still images showing aspiration (white arrows) of nectar liquid

References:

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3. Ryan MA, Upchurch PA, Senekki-Florent P. Neonatal Vocal Fold Paralysis. *Neoreviews.* 2020;21(5):e308-e322. doi:10.1542/neo.21-5-e308

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Video:

Modified barium swallow study showing aspiration of nectar liquid.



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- Topics may include Perinatology, Neonatology, and Younger Pediatric patients.
- No more than 20 references.
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