

VOCAL FOLD MOVEMENT AND SILENT ASPIRATION AFTER CONGENITAL HEART SURGERY

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Keywords: Congenital heart disease; aspiration; congenital heart surgery; dysphagia; pediatric feeding; vocal fold movement impairment.

Background: Infants who undergo congenital heart surgery are at risk of developing vocal fold motion impairment (VFMI) and swallowing difficulties. This study aims to describe the dysphagia in this population and explore the associations between surgical complexity and vocal fold mobility with dysphagia and airway protection.

Materials/Methods: This is a retrospective chart review of infants (age <12 months) who underwent congenital heart surgery between 7/2008 and 1/2018 and received a subsequent videofluoroscopic swallow study (VFSS). Demographic information, Society of Thoracic Surgeons-European Association for Cardio-Thoracic Surgery (STAT) category of each surgery, vocal fold mobility status, and VFSS findings were collected and analyzed.

Results: Three hundred and seventy-four patients were included in the study. Fifty-four percent of patients were male, 24% were premature, and the average age at the time of VFSS was 59 days. Sixty percent of patients had oral dysphagia and 64% of patients had pharyngeal dysphagia. Fifty-one percent of patients had laryngeal penetration and 45% had tracheal aspiration. Seventy-three percent of these aspirations were silent. There was no association between surgical complexity, as defined by the STAT category, and dysphagia or airway protection findings. Patients with VFMI after surgery were more likely to have silent aspiration (odds ratio = 1.94, $P < .01$), even when adjusting for other risk factors.

Conclusions: Infants who undergo congenital heart surgery are at high risk for VFMI and aspiration across all five STAT categories. This study demonstrates the high prevalence of silent aspiration in this population and the need for thorough postoperative swallow evaluation.

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