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Too Noisy After Surgery

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Background

Vascular ring refers to congenital anomaly of aortic arch. It is caused by developmental failure during embryogenesis of parts of fourth and fifth paired aortic arches. Compression of trachea and esophagus leads to symptoms. Despite a successful repair a vast majority of patients continue to have symptoms.

Case Presentation

7-month-old male born full term presents with cough, hoarseness in voice and wheezing that did not respond to bronchodilators. Work-up included Upper GI, bronchoscopy with airway compression, ECHO and cardiac MRI showing right sided aortic arch, left aberrant subclavian artery with left descending aorta.



Upper GI with right aortic arch

Case Presentation (continued)

He underwent division of ligamentum arteriosum and posterior aortopexy. Post operatively he continued to have noisy breathing. A repeat bronchoscopy was performed a year after surgery that showed critical distal tracheomalacia.

Discussion

Vascular ring repair is safe with very few recurrences. However, in a vast majority of patients there is persistence of preoperative symptoms despite successful repair. Stridor is the most common complaint. This gradually decreases with most patients being symptom free at 10 years. Management consisted of asthma medications, prophylactic antibiotics, chest physiotherapy, and physiotherapy with positive expiratory pressure mask.

Preoperative tracheomalacia is a risk factor for persistence of symptoms. Airway malacia is diagnosed by bronchoscopy but can be assessed by pulmonary function testing in a cooperative child with inspiratory loops showing central airway obstruction

Conclusions

There is paucity of literature on long term complications following vascular ring repair. Most of the body of literature reviews surgical repair with very few reviewing symptom resolutions. There is no consensus on management and is based on center preference. Multicenter studies will help in managing these complaints and alleviate patient anxiety.

References

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