4. Successful Surgical Approach for Double Aortic Arch with Tracheomalacia in an Infant

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Backgrounds and Purpose: Tracheomalacia is a rare disease in infant. If it is found alone, surgical approach by aortopexy could be the treatment of choice. However, when tracheomalacia is accompanied with vascular ring anomalies such as double aortic arch, the management is more difficult. Here, we report a case of an infant who was diagnosed of double aortic arch and tracheomalacia with successful surgical outcome.
Case: He was doing well until 20 days after the birth when he showed abrupt cyanotic change which required long-term endotracheal intubation. The tracheomalacia was diagnosed with rigid bronchoscope, and patent ducuts arteriosus (PDA) was detected with echocardiogram. The 3D chest CT reconstruction revealed the double aortic arch that make a narrowing of both trachea and esophagus. Corrective surgical procedures were performed at four months of age, including PDA ligation, division of double aortic arch, and aortopexy. On the 4th postoperative day (POD), extubation was done, and self respiration was good enough to hold O2 saturation level over 96%. On 6th POD, he started oral feeding. Follow-up 3D chest CT reconstruction showed only minimal lumen narrowing of trachea and esophagus. On the 11th POD, the infant was discharged in good health.
Conclusion: The tracheomalacia can be rarely combined with double aortic arch. This combination should be diagnosed before surgery and simultaneous correction should be performed with one stage during surgery.