3 Cases of Vascular Rings in Childhood: Presentation, Management and Outcomes

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Introduction:

Vascular rings are a rare but important cause of common paediatric respiratory symptoms and frequently present with stridor or noisy breathing. They are often associated with a history of recurrent respiratory infections and there should be a high index of suspicion for vascular anomalies when symptoms begin in the neonatal period. We present 3 cases of children with a vascular ring who presented at different ages and discuss their differing management.

Cases:

A 7-week-old boy presented with persistent noisy breathing and cough with intermittent tachypnoea. CT chest demonstrated a double aortic arch forming a complete vascular ring with tracheal compression. Surgery was performed at 16 months of age and he made good progress post-operatively with infrequent chest infections and resolution of noisy breathing.

A 9-month-old boy presented with cough and difficulty swallowing solids after commencing weaning. CT chest demonstrated a right sided aortic arch arising from a Kommerell’s diverticulum and compression of the trachea within the vascular ring. Surgeons advised surgical division but parents declined. A decision was made to manage conservatively with annual surveillance during which time he remained active with no exercise limitation or stridor.

A term baby girl was noted to have noisy breathing soon after birth. She was diagnosed with laryngomalacia which was managed conservatively however at 6 months of age she developed frequent choking episodes. CT angiogram showed a double aortic arch forming a near complete vascular ring. Surgery was performed at 2 ½ years of age and she had an uneventful post-operative course.

Conclusions:

Surgical intervention for vascular rings is associated with low short and long term mortality with rapid and complete resolution of symptoms in many cases. Some centres suggest a conservative approach to surgery in those with mild symptoms as there may be resolution of symptoms as the child grows.