Severe Contralateral Airway Compromise in a Patient with Truncus Arteriosus After RPA Stenting

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Introduction

A 16-year-old male with history of type B interrupted aortic arch (IAA) and type IV truncus arteriosus s/p repair with an RV-PA conduit experienced complete obstruction of his left main stem bronchus during stenting of his right pulmonary artery conduit under general anesthesia. This complication could not have been anticipated given the nature of the patient’s unusual post surgical anatomy. Additionally, this complication typically occurs in much younger patients.

Intra Operative Course

- A 16 year old boy with history of truncus arteriosus type IV and a type B interrupted aortic arch now s/p repair with an RV to PA conduit presented for a right and left heart catheterization with balloon angioplasty and stenting of his stenotic right pulmonary artery (RPA), the RV-PA conduit, and a melody valve placement.
- Induction was uneventful and the procedure progressed without incident until the proceduralist began stenting the RPA. The RPA conduit was stented with a 40mm Palmaz stent. Immediately, capnometry revealed a severely obstructive pattern and tidal volumes decreased by approximately 40%.
- The obstruction failed to resolve with standard recruitment measures and suctioning of the trachea. A fiber optic bronchoscope was inserted and it was determined that the proximal left main stem bronchus was completely obliterated.
- ENT performed a rigid bronchoscopy and balloon dilation the left main stem bronchus. Despite their efforts there was no improvement in tidal volumes or capnometry.

Discussion

- This is classically a complication of younger patients with truncus arteriosus whose tissues are much more pliable. In this case, the solution required the patient to breathe spontaneously so that the negative intrathoracic pressure he generated would splint his bronchus open enough to allow for some ventilation to occur.

Works Cited