Lessons learned from vascular ring *reoperations* can be applied to prevent the need for additional surgical procedures by properly selecting the correct initial operation. However, if reoperation is required a multidisciplinary team that has expertise in all aspects of the pathology is necessary for a successful outcome. I thank the Boston group for their strong contribution to our understanding of some of the finer points of reoperative vascular ring surgery.

See Article page 199.

Commentary: Do we need such aggressive treatment?

Michiaki Imamura, MD, PhD

Vascular ring and vascular compression syndrome arise from the abnormal development of the aortic arch and its vessels resulting in compression of the esophagus or tracheobronchial tree, or both.¹ Unusual location of the chest organ of heart, great vessel, trachea, bronchus, and esophagus also causes similar symptoms. Associated tracheobronchial stenosis or malacia is common. The majority of cases having surgical intervention for vascular compression will have relief of symptoms. However, a small proportion of these patients can return or persistently have respiratory or swallowing symptoms.^{2,3}

In this issue of the *Journal*, Labuz and colleagues⁴ in Boston Children's Hospital report reoperation after surgery for vascular ring and vascular decompression. They had 27 patients reoperation between 2014 and 2019. Seven had initial index surgery at their institution and 20 patients elsewhere. This report is the largest series of reoperation after vascular ring or vascular compression surgery. Five etiologies of failure of resolving vascular compression are

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Michiaki Imamura, MD, PhD

CENTRAL MESSAGE

A multidisciplinary team approach for persistent and recurrent symptoms following release of vascular compression can appropriately treat by customized operative approach.

identified. According to etiology of failure, tailored operative procedures were applied. Even if the same anatomical diagnosis, several different kinds of operative procedures were performed with a different approach, such as sternotomy or thoracotomy. At short-term follow-up of median 1 year, 95% of patients had symptomatic improvement.

The limitation of this study is that the majority of patients came from an outside institution brought to incomplete demographic information of index operation. The patients' conditions before index surgery and exact index operative procedure were not available due to the nature of study. This makes it difficult to understand the necessity of some reoperative surgical interventions. Also, the whole cohort is so diverse, with anatomical variations and symptomatic

dissimilarity, it is hard to evaluate the justification of some surgical procedures or approaches and results. Also, the follow-up period is still short, a median of 1 year. Therefore, a longer time follow-up is mandatory.

Another point of interest is that almost all the patients in this series (n = 26/27) had posterior tracheopexy. This might be due to high rate of significant tracheobronchomalacia. Also, there was a high rate of rotational esophagoplasty (n = 23/27). Previously, other teams managed reoperation after vascular ring repair by residual scar removal, anterior aortopexy, or residual vascular compression relieve.² Considering low rate of persistent or recurrent symptoms and low incidence of complications, their aggressive approach of wide application of posterior tracheopexy might be justified in this report cases of reoperation. An arguable concern is the high rate of postoperative esophageal balloon dilation (n = 15). This necessity of balloon dilation might be due to the aggressive approach of posterior tracheopexy with rotational esophagoplasty.

Labuz and colleagues should be congratulated for this study and this field contribution. They created Esophageal and Airway Treatment Center, which is multidisciplinary group composed of pediatric cardiovascular and general surgeons, pediatric otolaryngology, pediatric gastroenterology, and pediatric pulmonology teams. This type of approach helps treatment of these complicated patients.

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